Industrial Classed H685 Cellular Router

User Manual

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Chapter 1 Before Installation and Configuration

1.1 Purpose

1. For GSM/GPRS/EDGE/HSDPA/HSUPA version, please get a SIM card with data business.
2. For EVDO/CDMA1x version, please get a UIM card with data business or inform us before order if the network uses non-ruim (nam-flashing).
3. Make sure the signal is good enough where you test or install the router. Weak signal will make the router no work. If you find your signal strength is not good, please contact us for high gain antenna.

1.2 Technical Support

In order to solve the problems in the Router use more quickly and get the right solution in hardware, operation system and installation and test. Please contact us by:

. ☎ Tel:

Service Hot-line: +86 –(755) - 33231620

. ✉ E-mail:

Technical Support: support@szelins.com

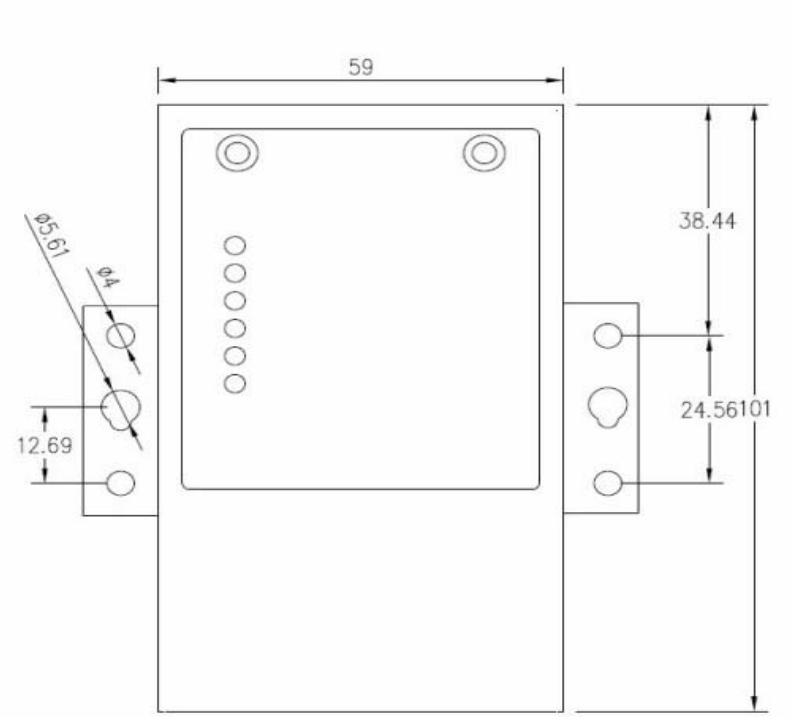
For more information, please check this website www.szelins.com.

Chapter 2 Hardware Installation

This chapter mainly describes the appearance, model and function of H685 series and how to install and set the configurations.

1. *Overall Dimension*
2. *Accessories Description*
3. *Installment*

2.1 Overall Dimension



2.2 Installment

H685 series should be installed and configured properly before putting in service. The installation and configuration should be done or supervise by qualified engineer.

Attention:

Don’t install H685 series or connect/disconnect its cable when it is power on.

2.3 SIM/UIM card installed

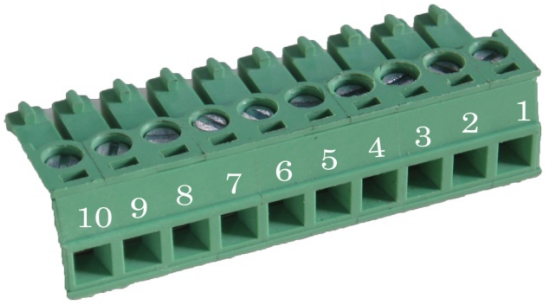
Load or remove SIM/UIM card, need to have equipment back cover turned, up gently, gap outwards, broke it gets stuck under load, toward the chip can buckle up. Remove UIM card, SIM/broke it gets stuck; thrust the card can slip out.

Attention: *SIM/UIM card does not reach the designated position, the equipment can not find a card, can't work normally, therefore inserted a try to check again for a SIM card is stuck fast.*

2.4 The installation of terminal blocks

H685 uses pluggable terminals to connect the user's data and the power supply. Spacing: 3.81mm， 10 Pin; User data and power supply suggestion: 14~24AWG. Please refer to the table 2-4 for the interface definition of the power cable and connection sequence. Specific interface definition of the power cable and connection sequence you can read on the labels of H685 products. Using 14~24AWG cable and referring to H685 products labels or the bellowed interface definition and connection sequence, you need to use the oblate screw driver to fix the cable to the connecting jacks of the pluggable terminal. After successfully connection, you need to insert the terminal into the corresponding position in the bottom of the H685 products.

Notes: Connection sequence should be accurate。Cable's insulating striping length is about 7mm. (For safety, insulating striping length should be too long). Please refer to the



picture.

Attention:

1. *The power cable should be connected correctly .We "suggestion double check before switch it on .Wrong connections may destroy the equipment.*
2. *Power terminals: Pin 1 and Pin 2;*
3. *Here： Pin 2 is "GND", PIN 1 is power input "Vin"(DC7~30V).*

2.5 Terminal signal definition

PIN	Signal	Description	Note
1	Vin	+7-30V DC Input	Current： 12V/1A
2	GND	Ground	
3	Tx	Transmit Date	
4	Rx	Receive Date	
5	PGND	Ground	
6	Reset	Reset	Reset Pin has the same function with reset button. In the usage, it needs to be short connected to the GND. After giving the device a 1 sec low level, it will reboot.3 seconds, the device will restore factory settings
7	SPI-I（IO0）	General Purpose I/O	
8	SPI-O (IO1）	General Purpose I/O	
9	SPI-CLK (IO2）	General Purpose I/O	
10	SPI-EN (IO3）	General Purpose I/O	

2.6 Grounding

To ensure a safe, stable and reliable H685 series operation, Router cabinet should be grounded properly.

2.7 Power Supply

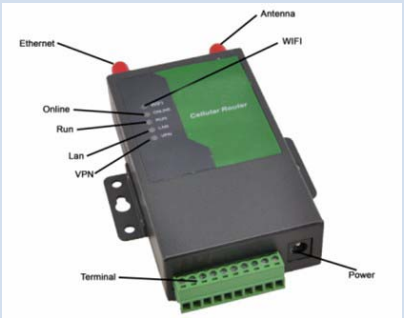
H685 series can be applied to complicated external environment and usually the power range is very large. So in order to fit the complicated application environment and improve the stability of the system, H685 series is designed with advanced power management technology. The DC power supply electronic to the device via the pluggable terminal PIN 2(GND) and PIN 1(Vin). Please refer to the above table for the detail definition of the terminal.

Normally, H685 series input powers supply is +7～+30V. In most cases, the standard configuration is 12V/1A.

2.8 Check Network Status

Please connect the antenna after you successfully connect to the cable. And then insert the valid SIM/UIM card and provide the power to the H685 series via the cable. After provide the power to H685, if the RUN light start to blink in a few seconds, that means the system start-up is normal; if the Online light works, that means the network has been found; if the VPN light works, that means VPN tunnel has been set up. Please refer to the below table for the situation of the indication lights.

LED	Indication Light	Description
Run	On for 3 seconds	On for 3 seconds after power supply
	blink	System set-up normally
	Off or still on after 3 seconds	System set-up failure
Lan	blink	Data transmission in Ethernet
	Off	Ethernet connection abnormal
VPN	On	VPN tunnel set-up
	Off	VPN tunnel set-up failure
Online	On	Access to the Internet
WIFI	On	Enable



	Off	Disable	

Chapter 3 Software configuration

1. *Overview*
2. *How to log into the Router*
3. *How to config web*

3.1 Overview

H685 series routers with built-in WEB interface configuration, management and debugging tools, user should configuration the parameters first; and it could be altered the parameters flexibility and software upgrades and simple testing. User can set up and manage the parameters of the router on its interface, detail step are bellow:

3.2 How to log into the Router

3.2.1 Network Configuration of the Computer.

The router default parameters as follow

IP: 10.10.10.254 (or 10.10.10.254:10000), sub mask: 255.255.255.0.

There are two ways to set the PC's IP address.

1. Manual setting
   Set the PC IP as 10.10.10.xxx (xxx = 1~253), subnet mask: 255.255.255.0, default gateway: 10.10.10.254, primary DNS: 10.10.10.254.
2. DHCP
   Choose "Obtain an IP address automatically" and "Obtain DNS server address automatically".

After IP setting, check it by ping. Click Windows start menu, run, execute "cmd" command. Input "ping 10.10.10.254" in the DOS window.

```
C:\>ping 10.10.10.254

Pinging 10.10.10.254 with 32 bytes of data:

Reply from 10.10.10.254: bytes=32 time<1ms TTL=64
Reply from 10.10.10.254: bytes=32 time<1ms TTL=64
Reply from 10.10.10.254: bytes=32 time<1ms TTL=64
Reply from 10.10.10.254: bytes=32 time<1ms TTL=64

Ping statistics for 10.10.10.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

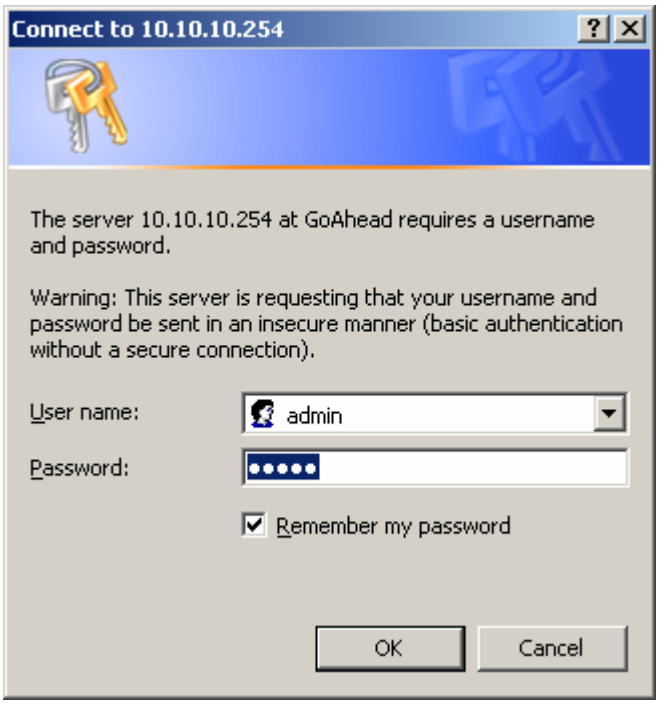
This information means the connection is work.

```
C:\>ping 10.10.10.254

Pinging 10.10.10.254 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.10.10.254:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

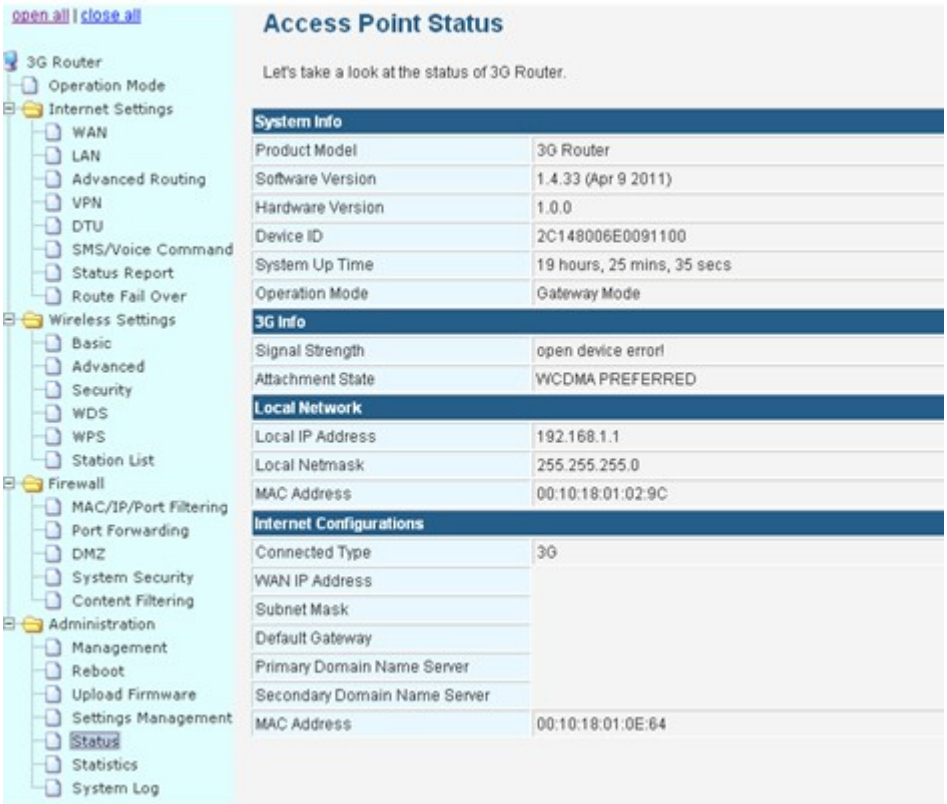
This information means the connection is failure. If so, please check the network cable connection and IP address setting.

3.2.2 Log into Router

- Open the Web browser, and type http://10.10.10.254 (or http://10.10.10.254:10000) into the address field and press Enter bottom in your computer keyboard.
- Type User Name “admin” and Password “admin” in the pop-up Login Window, and then press the “Apply” button.

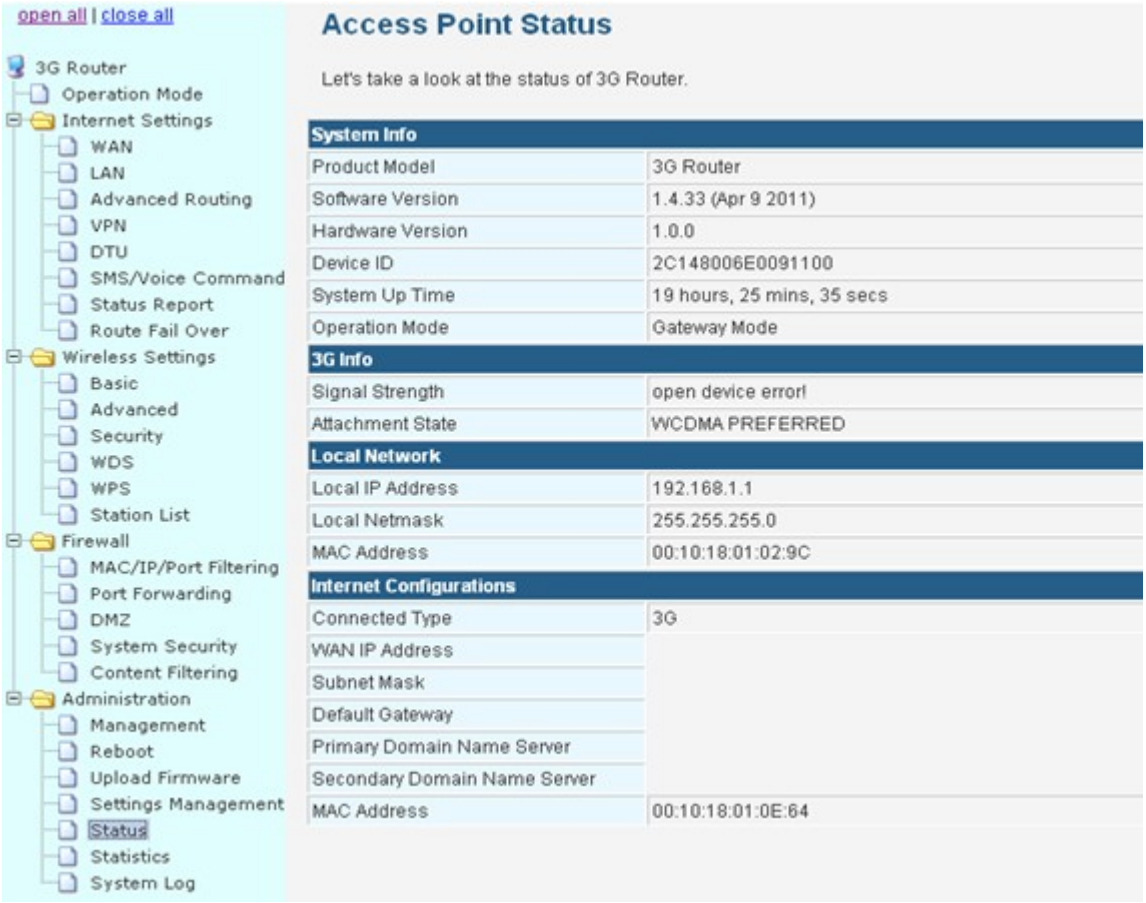

Connect to 10.10.10.254
The server 10.10.10.254 at GoAhead requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name:
admin
Password:
Remember my password
OK
Cancel

- If you type into the correct User Name and Password, you will get the access into the Router's Web Management Page.

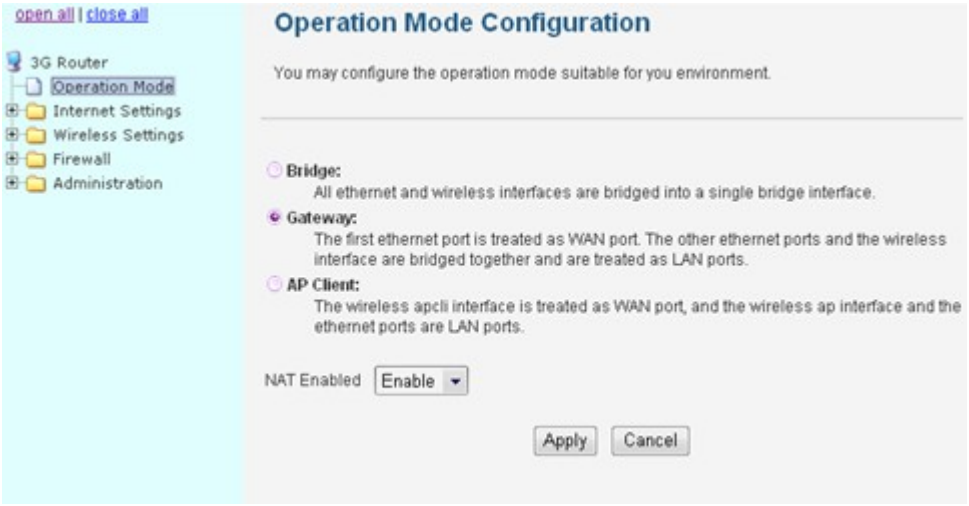


3.3 How to config web

3.3.1 Main Menu as below Picture



3.3.2 Operation Mode


open all | close all
3G Router
Operation Mode
Internet Settings
Wireless Settings
Firewall
Administration
Operation Mode Configuration
You may configure the operation mode suitable for you environment.
Bridge:
All ethernet and wireless interfaces are bridged into a single bridge interface.
Gateway:
The first ethernet port is treated as WAN port. The other ethernet ports and the wireless interface are bridged together and are treated as LAN ports.
AP Client:
The wireless apcli interface is treated as WAN port, and the wireless ap interface and the ethernet ports are LAN ports.
NAT Enabled
Enable
Apply
Cancel

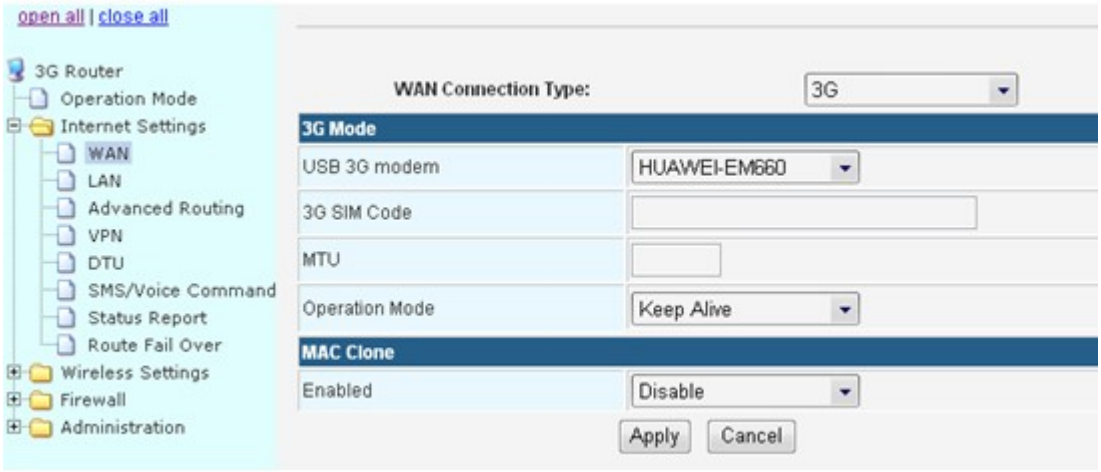
- **Bridge:** All Ethernet and wireless interfaces are bridged into a single bridge interface.

- **Gateway:** The first Ethernet port is treated as WAN port. The other Ethernet ports and the wireless interface are bridged together and are treated as LAN ports.
- **AP Client:** The wireless apcli interface is treated as WAN port and the wireless ap interface and the Ethernet ports are LAN ports.
- **NAT:** Network Address Translation

Normally and default we select “Gateway mode”.

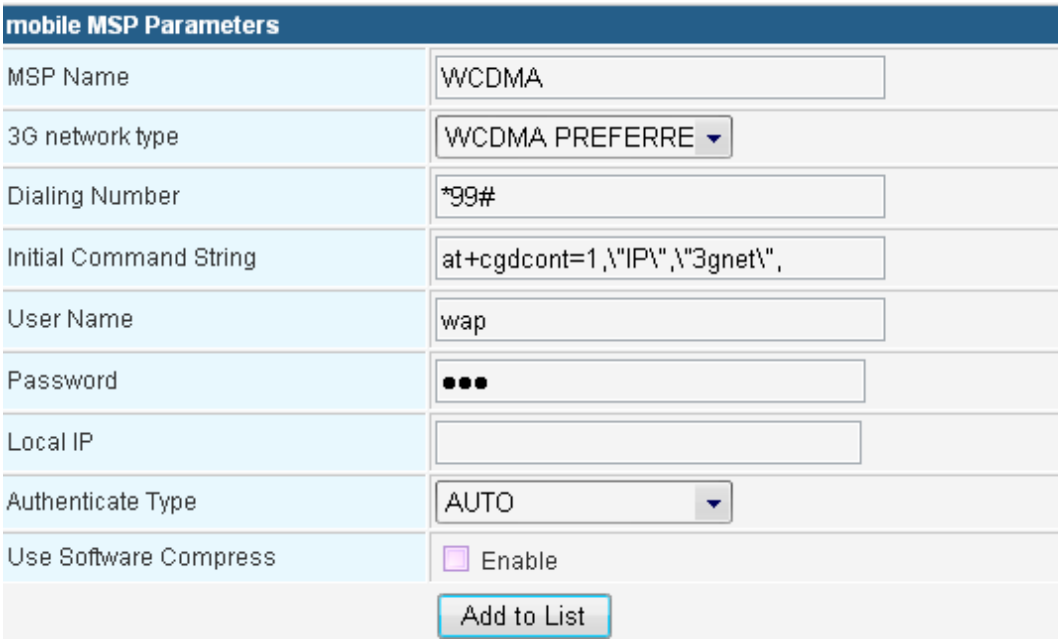
Gateway mode Settings:

3.3.3 WAN Settings



- WAN Connection Type support: Static IP, DHCP, PPPoE, L2TP, PPTP, 3G(some version of software indicated “Cell” instead of 3G).
- USB Modem: System supports the follow module: HUAWEI EM560（for H685 TD-SCDMA）, HUAWEI EM660/THINKWILL MI600(for H685 EVDO), and HUAWEI EM770/LONGSUNG-U6300/U5300(for H685 HSPA). Please choose right USB modem.
  Notes: the USB 3G Modem Type was marked on the back of the router.
- 3G SIM PIN: enter PIN code if necessary.
- Operation Mode: always online, connect on demand, connect on time. The default mode is always on line.
- MAC Clone: enable and disable the MAC clone function.

3.3.3.1 WAN type --3G



- **Mobile MSP parameters:** edit the MSP parameters.
- **MSP Name**: any name is ok
- **3G network type**: you can choose right network here.
- **Dialing Number**: Input the Dialing Number you get from ISP. For example, China Telecom (#777)
- **Initial Command String:** you need to input the username and password or APN offered by ISP with our Initial command

  H685 EVDO: pleaseinput: at\^pppcfg=\"username\",\"password\" Take China Telecom (both username and password are "CARD")as a sample: we input this command at\^pppcfg=\"CARD\",\"CARD\"
  (HUAWEI_EM660/Thinkwill MI600)

  H685 HSPA: pleaseinput: at+cgdcont=1,\"IP\",\"APN\", Take China Mobile(Their APN is 3gnet) as a sample: we input this command at+cgdcont=1,\"IP\",\"3gnet\",
  (HUAWEI_EM770/U5300/U6300/GaoRan280)

  H685 GPRS: pleaseinput: at+cgdcont=1,\"IP\",\"APN\", as a sample: we input this command at+cgdcont=1,\"IP\",\"cmnet\",

  H685 CDMA: at+zpidpwd=username,password , as a sample:we input this command at+zpidpwd=card,card
- **Username and Password:** input them if there is.
- **Authenticate Type:** PAP/CHAP, the default setting is auto.

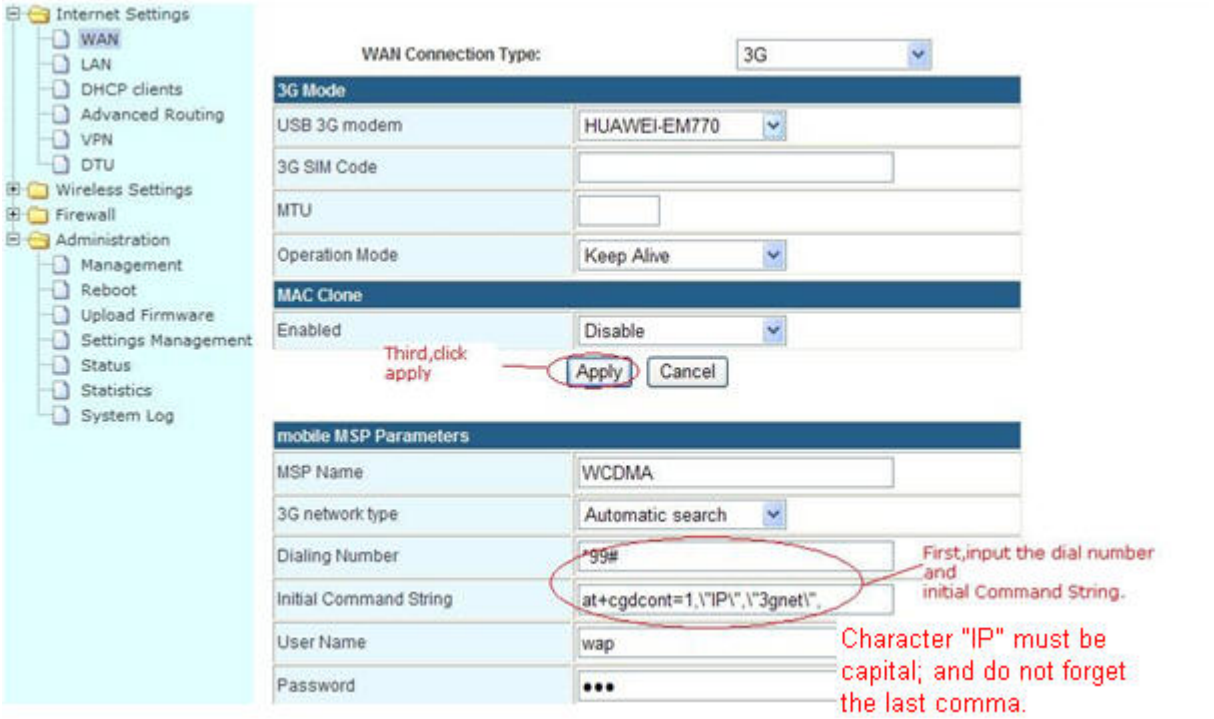
MSP List

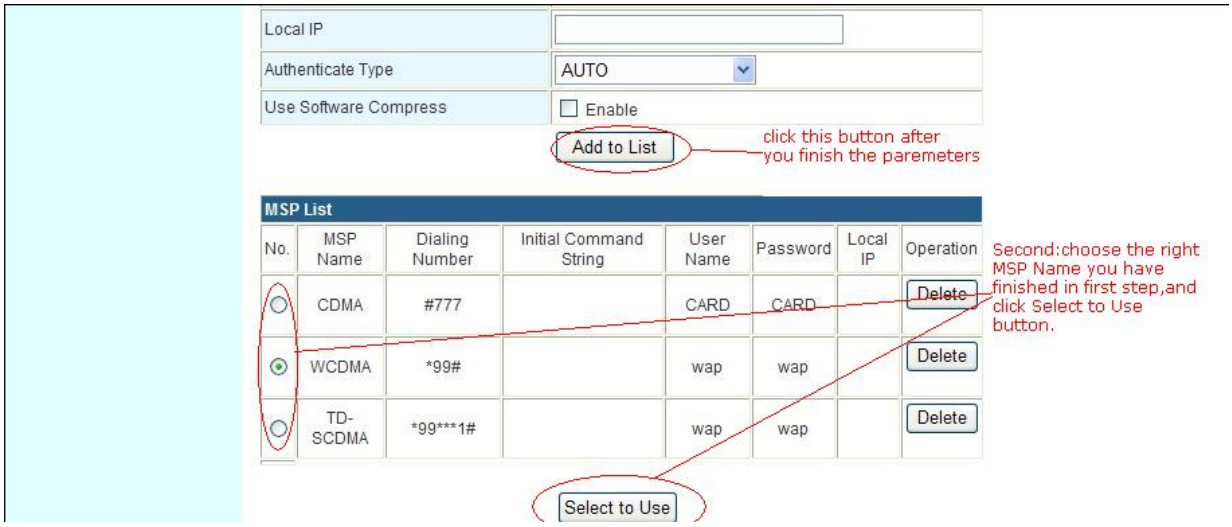
No.	MSP Name	Dialing Number	Initial Command String	User Name	Password	Local IP	Operation
○	CDMA	#777		CARD	CARD		Delete
◉	WCDMA	*99#		wap	wap		Delete
○	TD-SCDMA	*99***1#		wap	wap		Delete

Select to Use

MSP list: This list is produced automatically once you finish the above mobile MSP parameters. Just choose the right MSP parameters and corresponding module (3G USB modem), and click Apply, then it will dial.

For example, we use H685 HSPA router to dial:

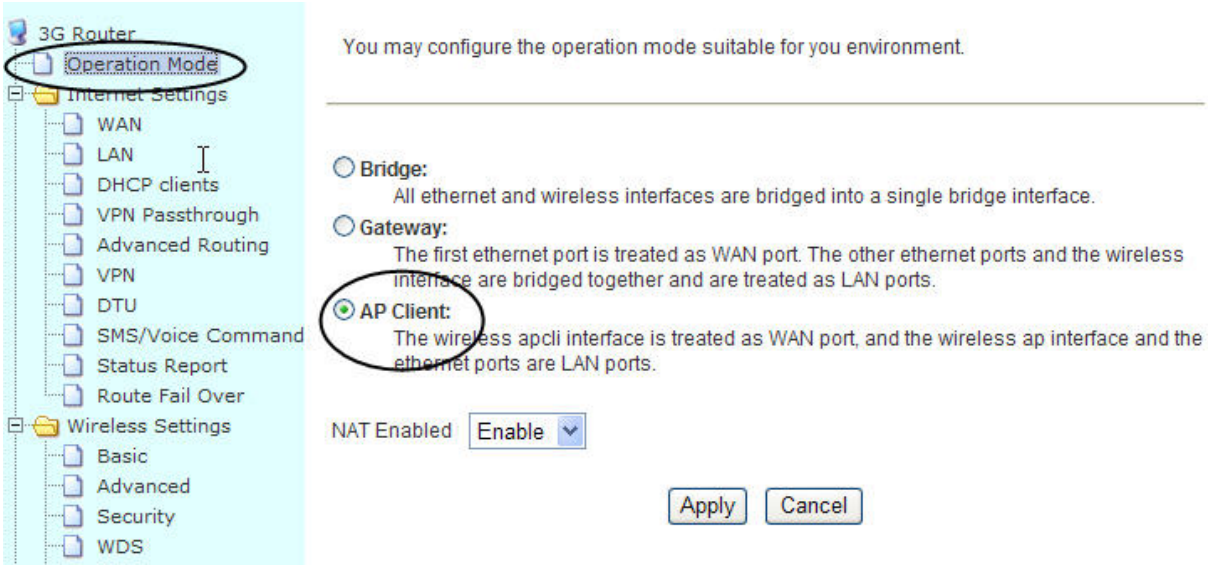




3.3.3.2 AP Client mode

Set H685 as a AP client, H685 will connect the upper WiFi router.

Step1: H685 web -- Operation Mode – Choose “AP client”, and click apply button. Wait some time until the H685 make the setting works.

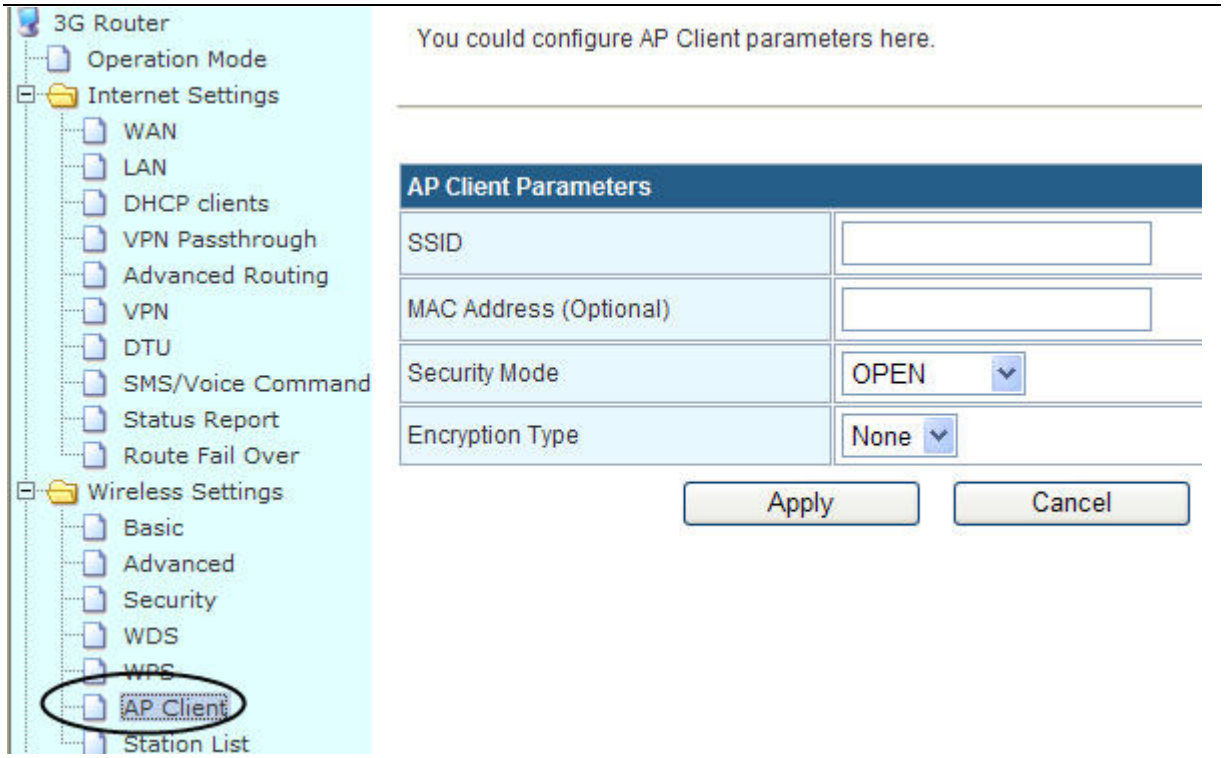


Steps: Wireless Settings – AP Client

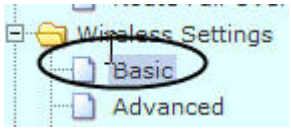
Here fill in the parameters.

SSID: input the WiFi router’s SSID

Security Mode: choose correct one from the WiFi router you want to connect.

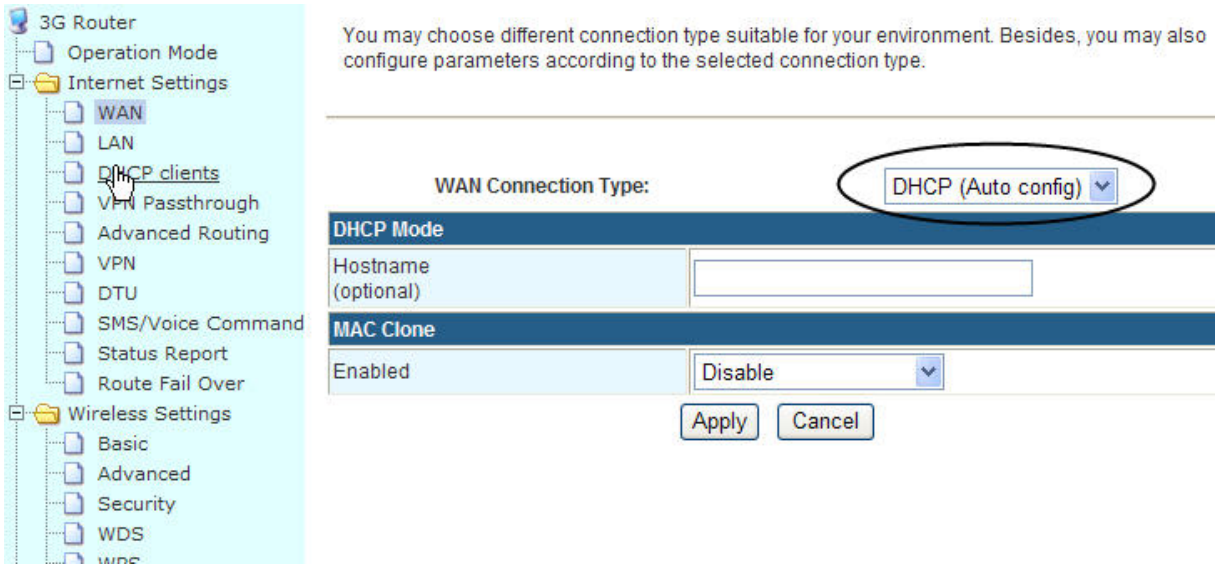


Step3: Wireless Settins -- Basic



Here please select the right channel the same with the wifi router you want to connect.

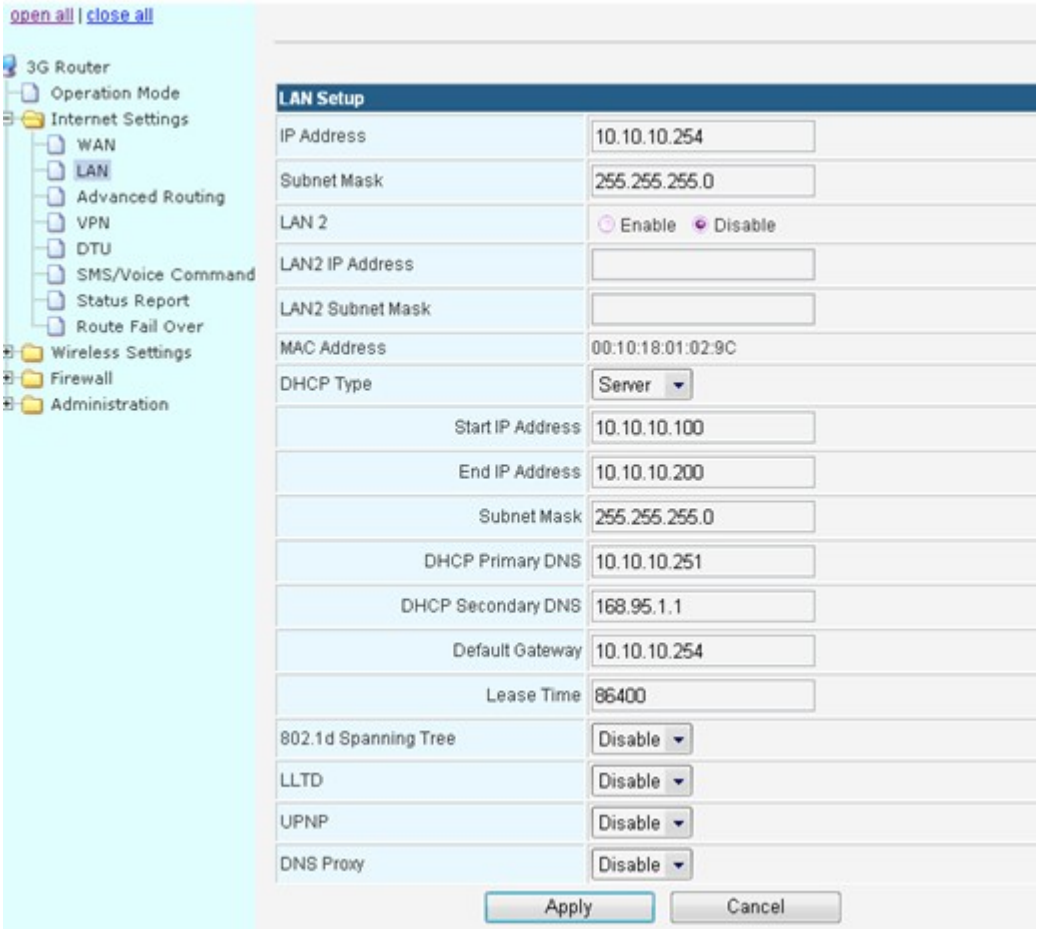
Step4: Internet Settings -- WAN



At “WAN Connection Type”, choose “DHCP (Auto Config)”, and click “Apply” button. The

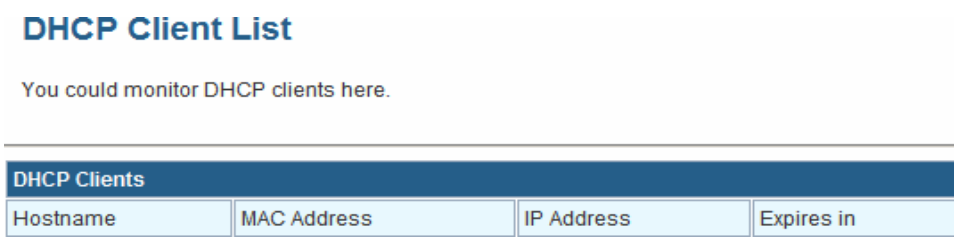
H685 router will automatically connect the WiFi Router and get local IP from the wifi router. You can check at status info page.

3.3.4 LAN Settings



Setting the LAN parameters, include IP address, sub mask, VLAN, DHCP, etc.

3.3.5 DHCP Client



List the Clients which gain IP address from DHCP.

3.3.6 Configure Static Routing

This section mainly introduces what is Routing Table and how to configure static

router.

- Routing Table

  This page shows the key routing table of this router.

Current Routing table in the system:									
No.	Destination	Netmask	Gateway	Flags	Metric	Ref	Use	Interface	Comment
1	255.255.255.255	255.255.255.255	0.0.0.0	5	0	0	0	LAN(br0)	
2	10.10.10.0	255.255.255.0	0.0.0.0	1	0	0	0	LAN(br0)	

- New Static Router

  This page is about how to set static routing function of the router.

Add a routing rule	
Destination	
Range	Host
Gateway	
Interface	LAN
Comment	

§ **Destination**: please enter Target Host or IP network segment

§ **Range**: Host or Network can be chosen

§ **Gateway**: IP address of the next router.

§ **Interface**: You can choose the corresponding interface type.

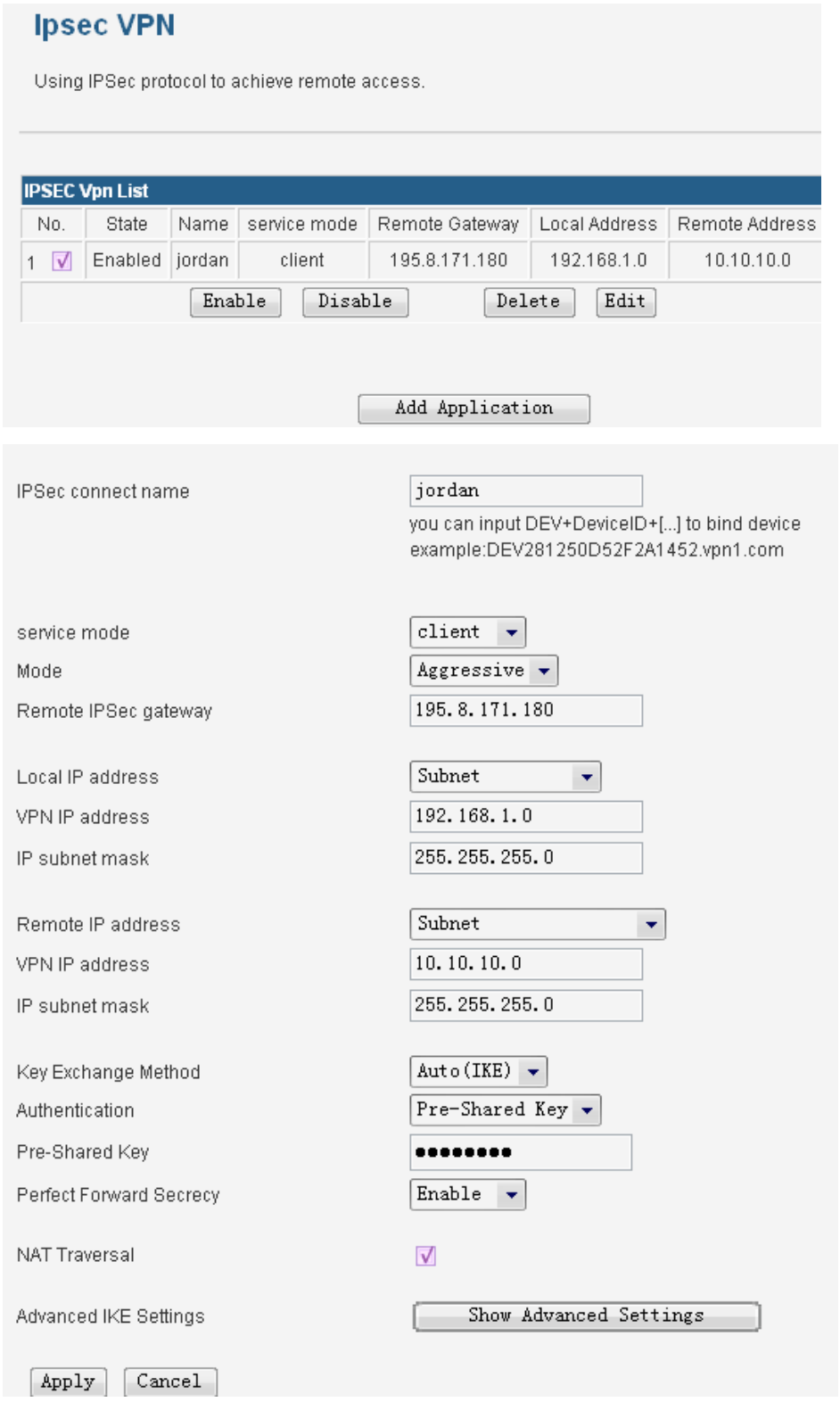
§ **Comment**: some notes

Notice:

- Gateway and LAN IP of this router must belong to the same network segment.
- If the destination IP address is the one of a host, and then the Subnet Mask must be 255.255.255.255.
- If the destination IP address is IP network segment, it must match with the Subnet Mask. For example, if the destination IP is 10.0.0.0, and the Subnet Mask is 255.0.0.0.

3.3.7 VPN

3.3.7.1 IPSEC

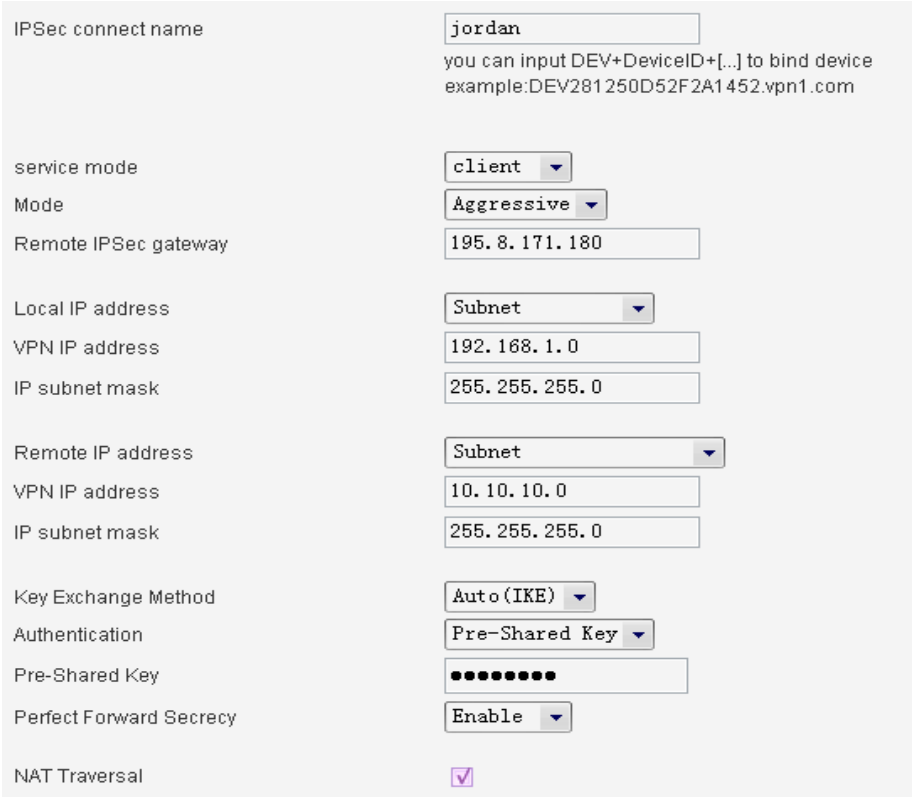


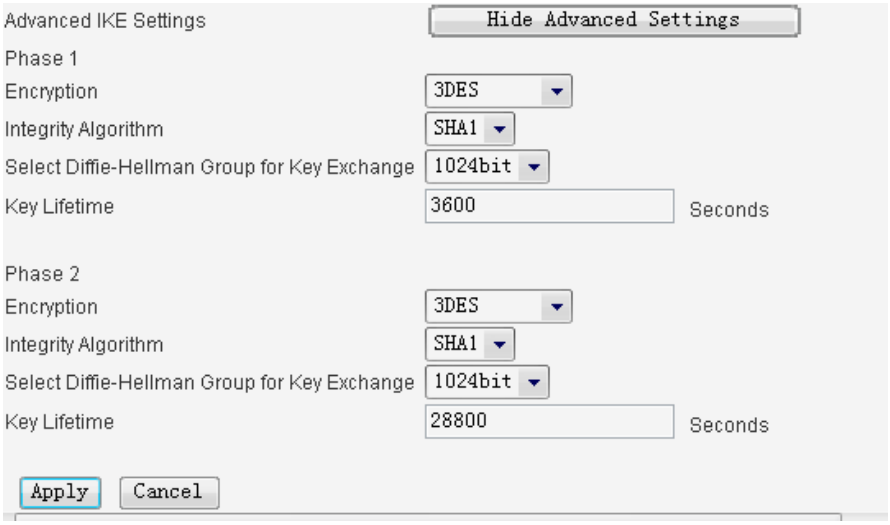
- **IPsec connect name**: make sure the name in client and server are same, we suggest to use domain name (111.vpn1.com). if you want to build a point-to-point channel, the IPsec name have to be written as DEV+equipment ID+name (DEV281250D52F2A1452.vpn1.com), and make sure both the client and server are inputing Client equipment ID. You can find H685's ID in the Status interface.

- **Service Mode**: Server/Client
- **Mode**: Main/Aggressive. The Aggressive mode is commonly used.
- **Remote Gateway**: This choice just appears in the Client mode and it is used to fill the IP address in the Server.
- **Local IP address**: Fill LAN IP of this device. You can fill an IP or a network segment.
- **Remote IP address**: Fill the IP of the other router.
- **Authentication**: Commonly, Pre-Shared Key is chosen. And the Client and Server must choose the same key.
- **Advanced AKE settings:** There are some encryption methods in this field. You must use the settings in this field when VPN tunnel needs to be built between H685 and other brand VPN server.
- **Example: Connected cisco 7200 and H685**

  How to config H685 as VPN clinet

  IPsec Name: make sure the name in client and server are same, we suggest to use domain name(111.vpn1.com). if you want to build a point-to-point channel, the IPsec name have to be written as DEV+equipment ID+name(DEV281250D52F2A1452.vpn1.com), and make sure both the client and server are inputing Client equipment ID. You can find H685's ID in the Status interface.





How to config cisco 7200 as VPN Server

crypto keyring jordan
pre-shared-key hostname jordan key test

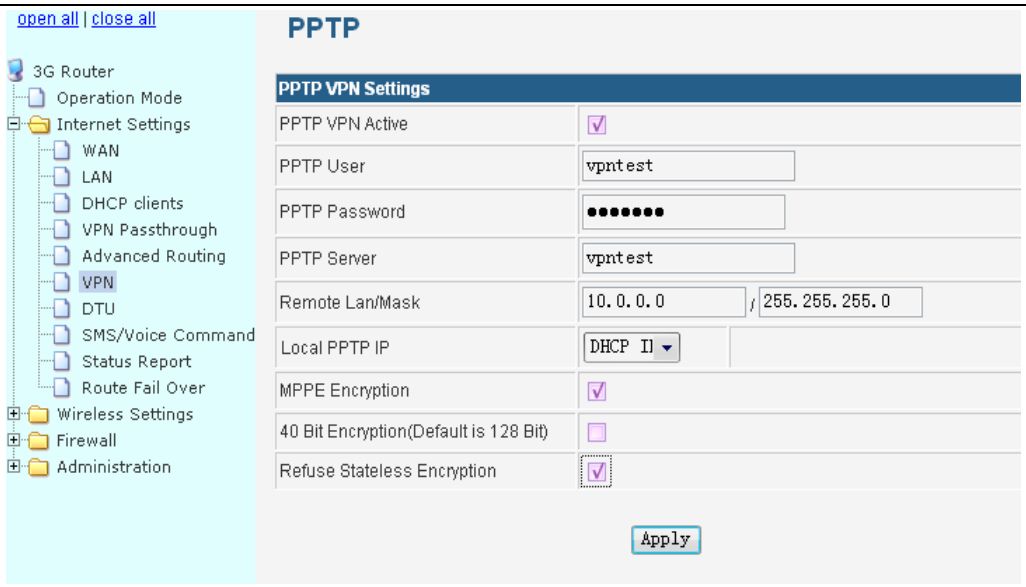
crypto isakmp profile jordan
description china SZ shenzhen
keyring jordan
match identity host jordan
keepalive 60 retry 10

crypto ipsec transform-set vpnset esp-des esp-sha-hmac

crypto ipsec profile jordan
set transform-set vpnset
set isakmp-profile jordan

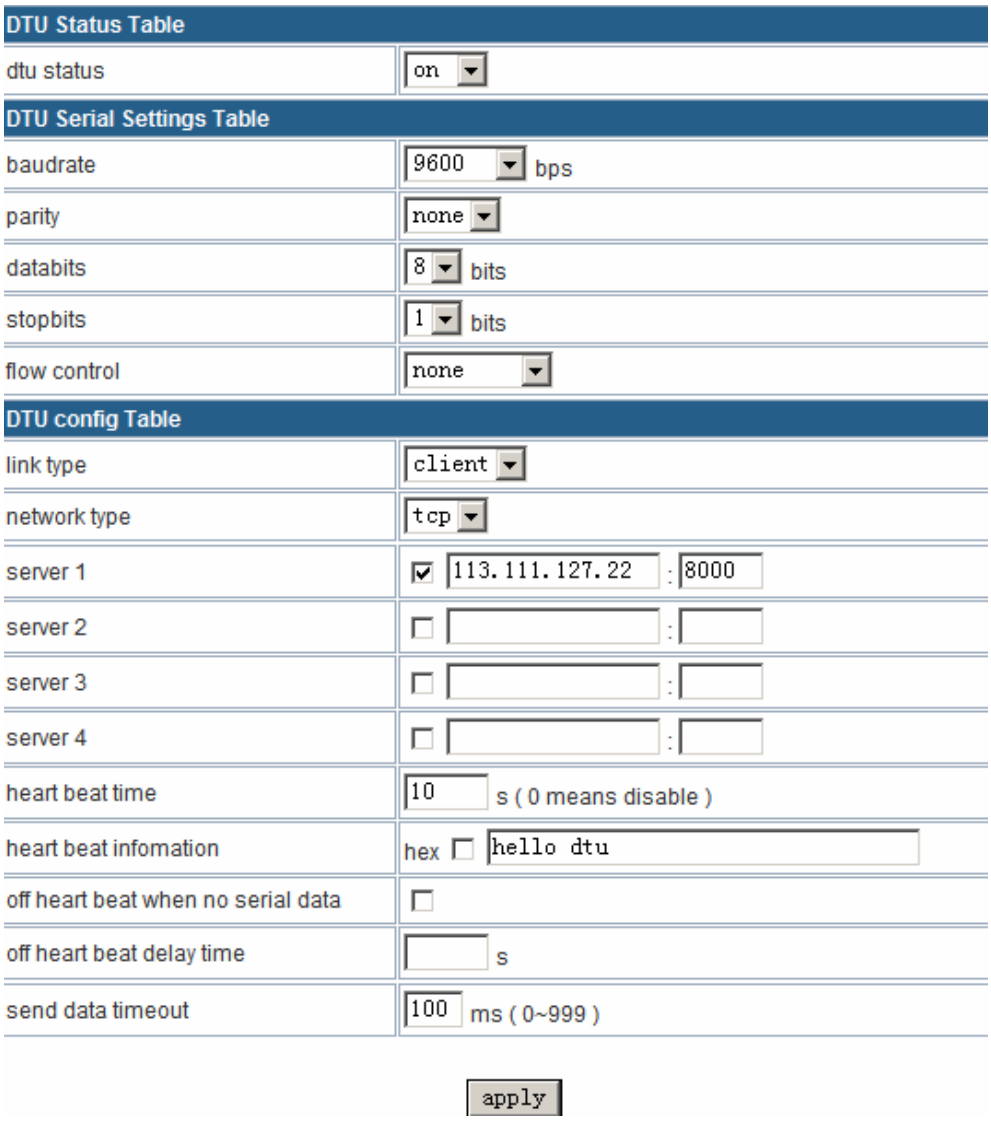
crypto dynamic-map jordan 1
set security-association lifetime kilobytes 536870912
set security-association lifetime seconds 43200
set transform-set vpnset
set isakmp-profile jordan
reverse-route
crypto map COREVPN 26 ipsec-isakmp dynamic jordan

3.3.7.2 PPTP



this function in the device just works as Client.

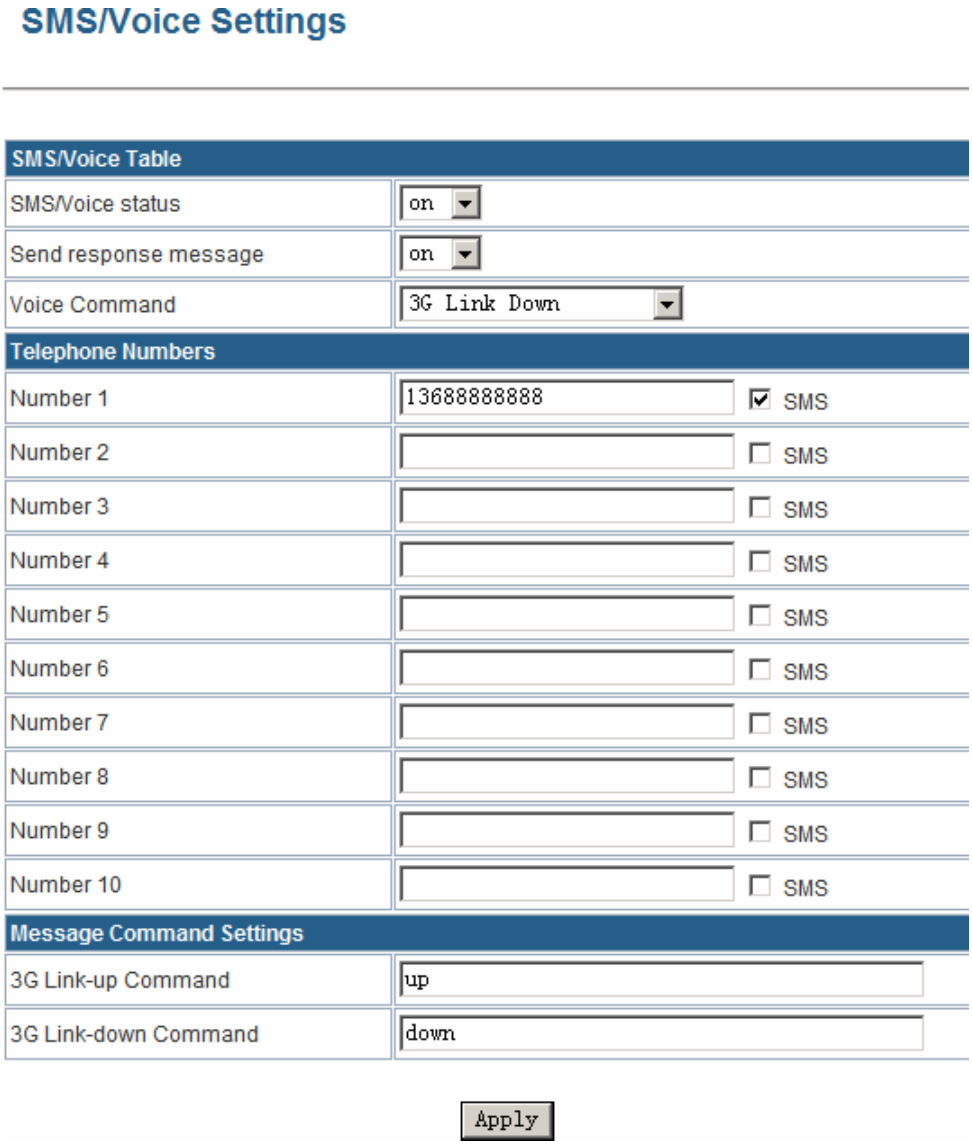
3.3.8 DTU Settings (Only for version with DTU feature)



This section is mainly about DTU settings.

- **DTU status:** open and close DTU
- **Baudrate:** support 4800/9600/19200/38400/57600/115200bps
- **Link Type:** Server link or Client link can be chosen in the DTU config table. If use it as Server, we suggest you to use fixed IP of the SIM card.
- **Multiple-path Backup**: the router can support 4 Server IP at most to meet the need for multiple-path data backup.
- **Heart Beat function**: You can define heart beat time and heat beat information. So that Server can use the heart beat information to identify DTU.
- **Data content:** the largest package contents are 3KB. The interval between packets can be adjusted through change “send data timeout”.

3.3.9 SMS/Voice Control（only for version support SMS/Voice control feature）

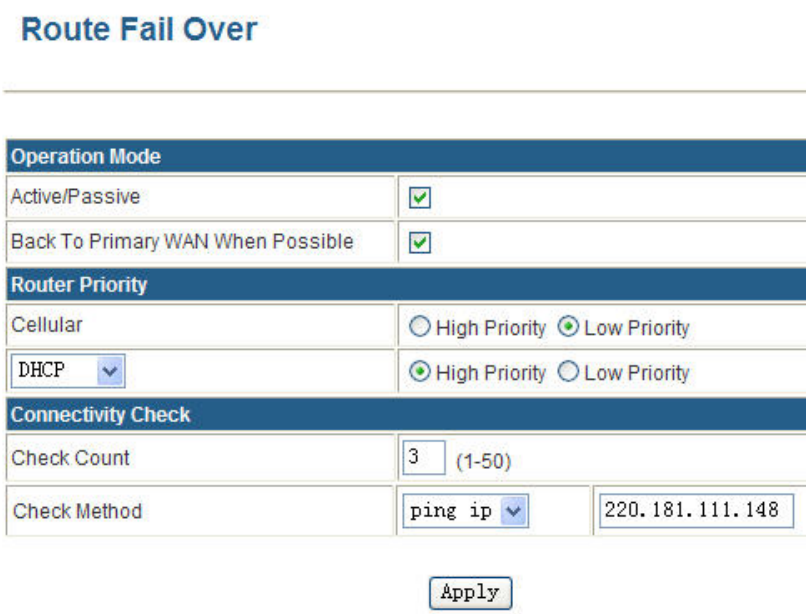


This section is to introduce how to wake up the router from SMS or Voice.

- **SMS/Voice status:** open(on) or close(off) this function.
- **Send respond SMS:** When the router receive a message, it will reply one piece if you choose"on"..
- **Voice Command:** 4 choices(close, 3G link up, 3G link down, 3G link up or down); perform the corresponding action according to what you have chosen. (Note:at present, Voice function do not support phone number filtering.)
- **Telephone Number Settings:** 10 numbers can be set at most, which you can send SMS from these phone numbers.
- **Command Settings:** Sending order by mobile phone can open "3G link up" and "3G link down".

Note: SIM Card inserted in the router must support SMS or Voice.

3.3.10 Route Fail Over



How to use *Route Fail Over* feature?

Confirm the upper side router connects to internet, and its DHCP is working.

First, Set H685 work mode as default "Gateway mode".

Step1: activate it. Click at "Active/Passive"

Step2: click at "Back To Primary WAN When Possible"

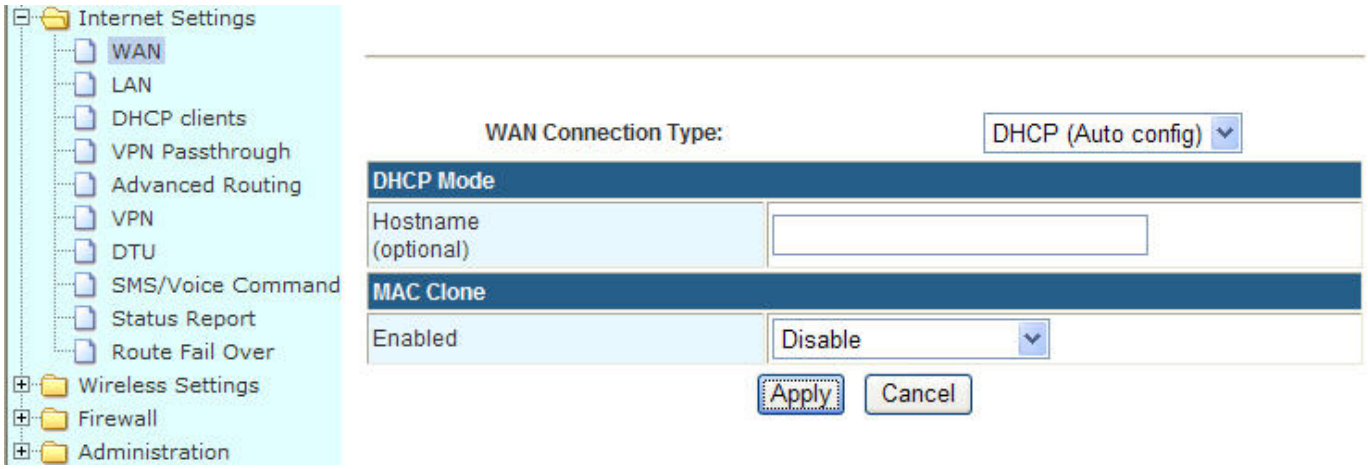
Step3: Choose the network priority.

A. Cellular as Low Priority, DHCP as High Priority
   With this configuration, the router will work at DHCP mainly, and if DHCP is failed, it switches to cellular automatically after some time. And it will automatically switch to DHCP when DHCP is fixed.

B. Cellular as High Priority, DHCP as Low Priority
   With this configuration, the router will work at cellular mainly, and if cellular is failed, it switches to DHCP automatically after some time. And it will automatically switch to cellular when cellular is fixed.

DHCP: here can be DHCP WiFi Client.

Step4: if step 3 choose A, please follow chapter 3.3.3.4 to make WiFi client DHCP work first, then set WAN as DHCP and click "Apply"



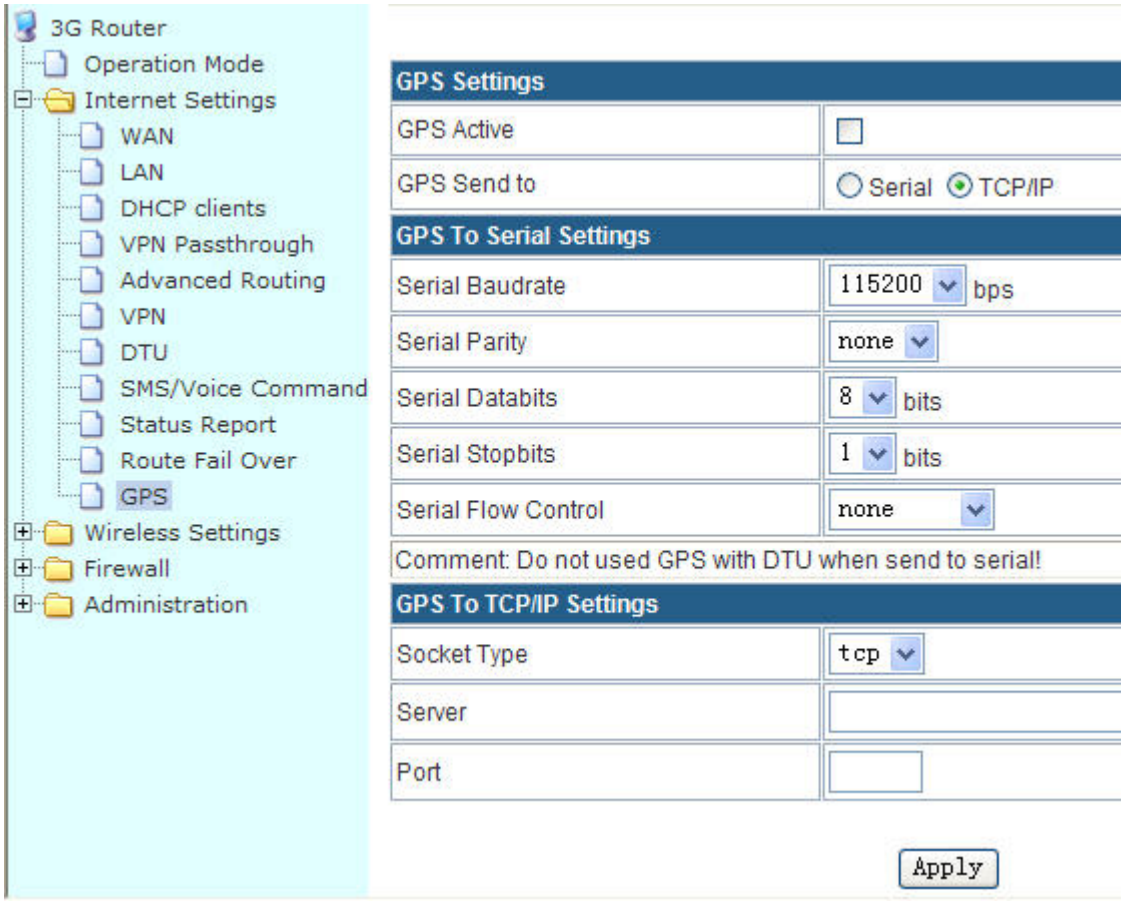
The H685 gets WAN IP and default gateway from the up-side router.

Product Model	3G Router
Software Version	2.4.6 (Aug 5 2011)
Hardware Version	1.0.0
Device ID	280230312C080435
System Up Time	36 mins, 15 secs
Operation Mode	Gateway Mode
3G Info	
Signal Strength	27 , (0-31)
Attachment State	CDMA/EVDO HYBRID
Local Network	
Local IP Address	192.168.8.1
Local Netmask	255.255.255.0
MAC Address	00:0C:43:30:52:77
Internet Configurations	
Connected Type	DHCP
WAN IP Address	192.168.0.104
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1
Primary Domain Name Server	192.168.0.1
Secondary Domain Name Server	
MAC Address	00:0C:43:30:32:12

If step 3 choose B, set WAN as 3G and click “Apply”, it will work on 3G first, and switch to LAN RJ45 cable WAN or WiFi client mode if 3G network is failed.

Notes: for route fail over feature, please first make the main network and backup network both work before activate the fail over feature.

3.3.11 GPS (for version with GPS only)



GPS Active: please click it once you need use GPS feature.

GPS Send to: Choose “Serial” or “TCP/IP” method. The router only receives the GPS signal, will not process it. It will just send the received GPS signal to your GPS processor.

If the GPS processor is connected to the 3G Router via Serial Port, then please choose “Serial”.

If choose “TCP/IP” method, please fill in the “GPS to TCP/IP Settings”.

3.3.12 Wireless settings (For version with WiFi only)

3.3.12.1 Basic Wireless Settings

Wireless Network	
Radio On/Off	RADIO OFF
Network Mode	11b/g/n mixed mode
Network Name(SSID)	3G Router Hidden ☐ Isolated ☐
Multiple SSID1	Hidden ☐ Isolated ☐
Multiple SSID2	Hidden ☐ Isolated ☐
Multiple SSID3	Hidden ☐ Isolated ☐
Multiple SSID4	Hidden ☐ Isolated ☐
Multiple SSID5	Hidden ☐ Isolated ☐
Multiple SSID6	Hidden ☐ Isolated ☐
Multiple SSID7	Hidden ☐ Isolated ☐
Broadcast Network Name (SSID)	◉ Enable ○ Disable
AP Isolation	○ Enable ◉ Disable
MBSSID AP Isolation	○ Enable ◉ Disable
BSSID	00:10:18:01:06:D8
Frequency (Channel)	2437MHz (Channel 6)

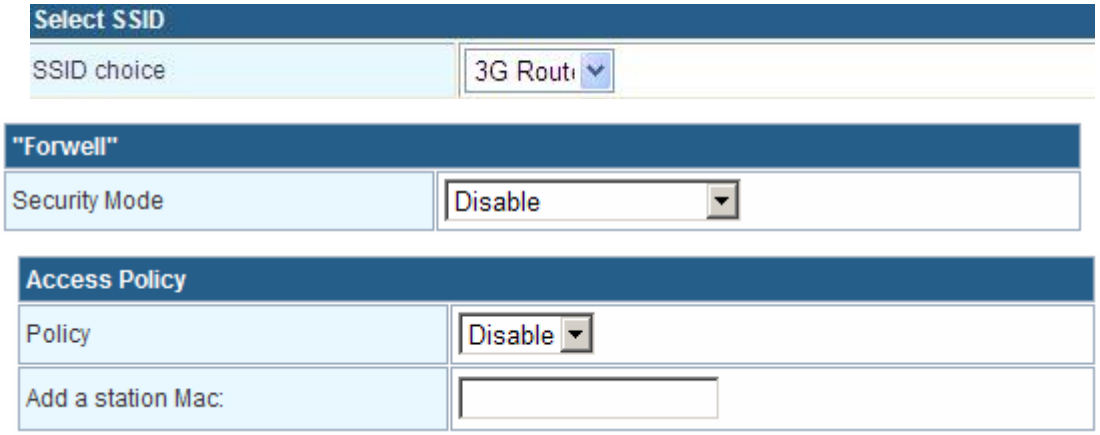
HT Physical Mode	
Operating Mode	◉ Mixed Mode ○ Green Field
Channel BandWidth	○ 20 ◉ 20/40
Guard Interval	○ Long ◉ Auto
MCS	Auto
Reverse Direction Grant(RDG)	○ Disable ◉ Enable
Extension Channel	2457MHz (Channel 10)
Aggregation MSDU(A-MSDU)	◉ Disable ○ Enable
Auto Block ACK	○ Disable ◉ Enable
Decline BA Request	◉ Disable ○ Enable

Other	
HT TxStream	2
HT RxStream	1

The basic parameters of Wi-Fi setting.

The Radio function enable and disable.
The network mode supports 802.11 b/g/n (draft).
Support multi-SSID up to 8.

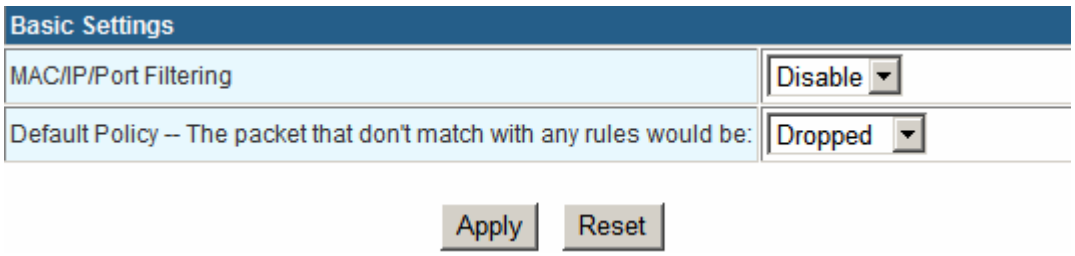
3.3.10.2 Wireless Security/Encryption Settings

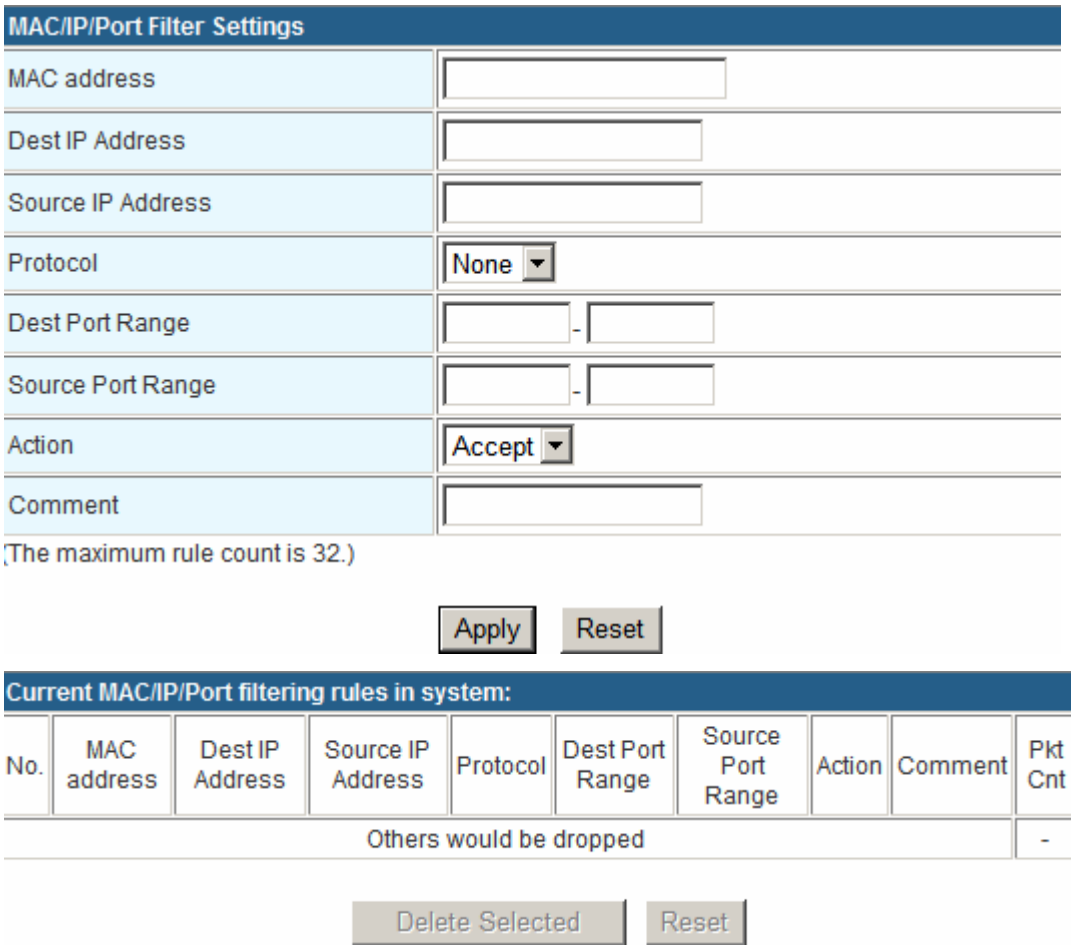


The SSID select from multi-SSID setting.
Security mode include: disable, open, share, wep auto, WPA, wpa-psk, wpa2, wpa2-psk, wpa-psk/wpa2-psk, wpa/wpa2, 802.1X.
Access policy: setting the MAC list for access or deny.

3.3.13 Firewall

3.3.13.1 MAC/IP/Port Filter Settings

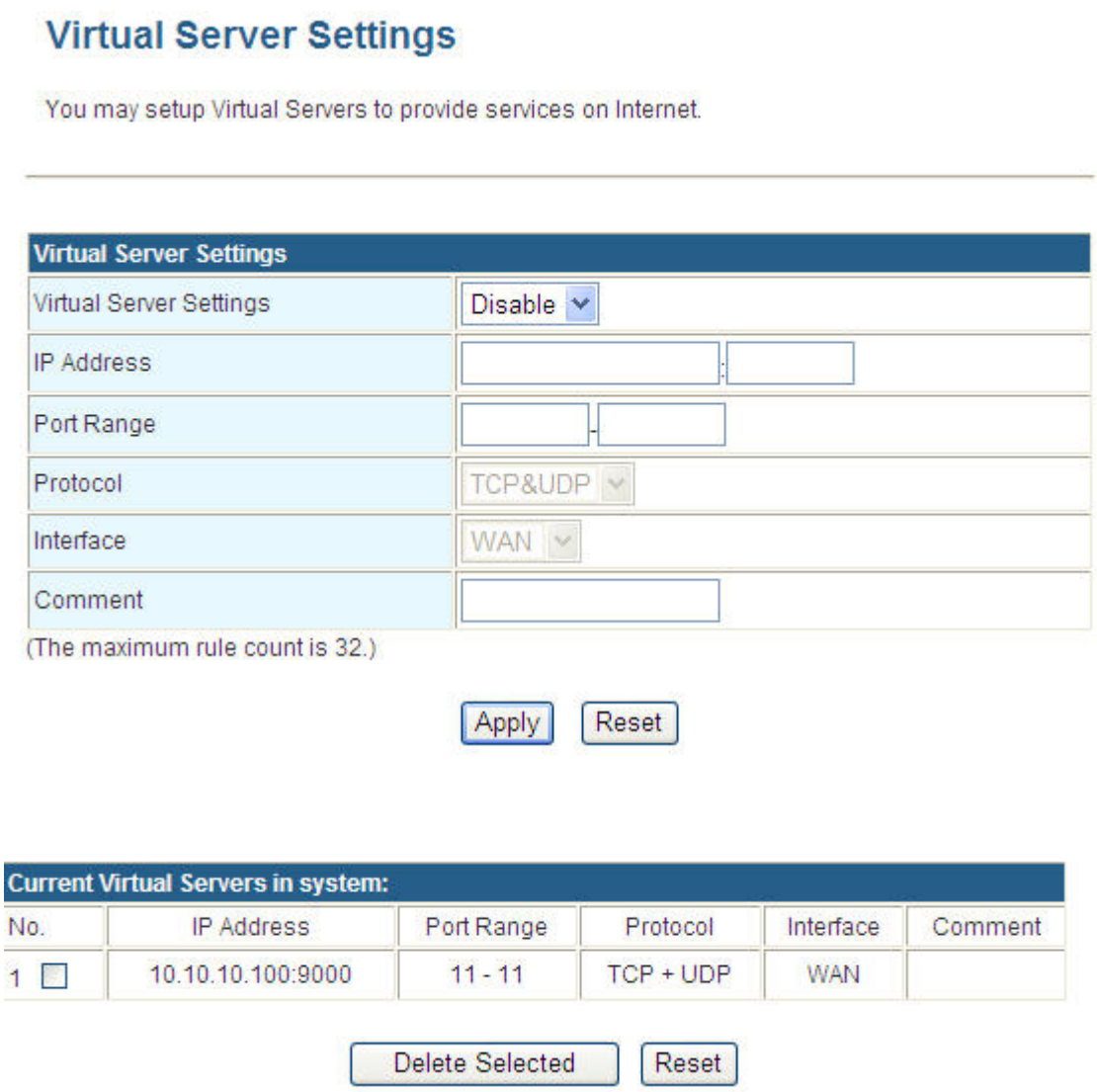




This section is mainly about MAC/IP/Port filter settings

- **Basic Settings:** Open the filter setting and set the filtering principle.
- **MAC address:** Fill the MAC address which needs to filter.
- **Destination IP:** IP of the target computer(the computer which the data packet will be sent to)
- **Destination Port Range:** port range of target computer
- **Source Port Range:** port range of the computer which sends data

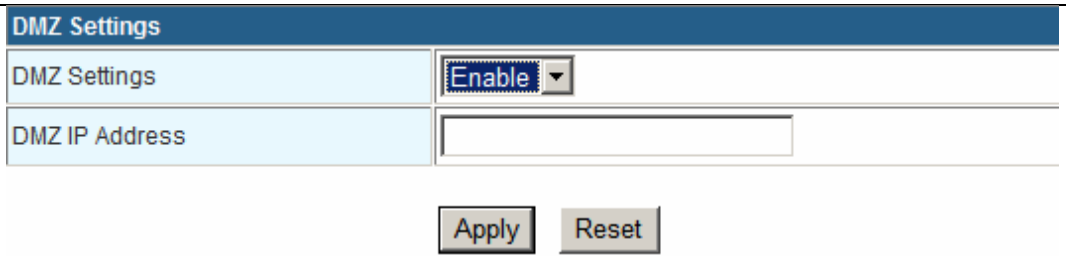
3.3.13.2 Port Forwarding



Port forwarding is the process that your router or firewall uses to sort the right kind of network data to the right port. Computers and routers use ports as a way to organize network data. Different types of data, such as web sites, file downloads, and online games, are each assigned a port number. By using port forwarding, the router or firewall sends the correct data to the correct place.

- Virtual Server Settings: open and close Settings.
- IP address: fill the IP address of forwarding. The first blank is for local IP address, the second blank is for port.
- Port Range: fill the Port of forwarding.

3.3.13.3 DMZ Host

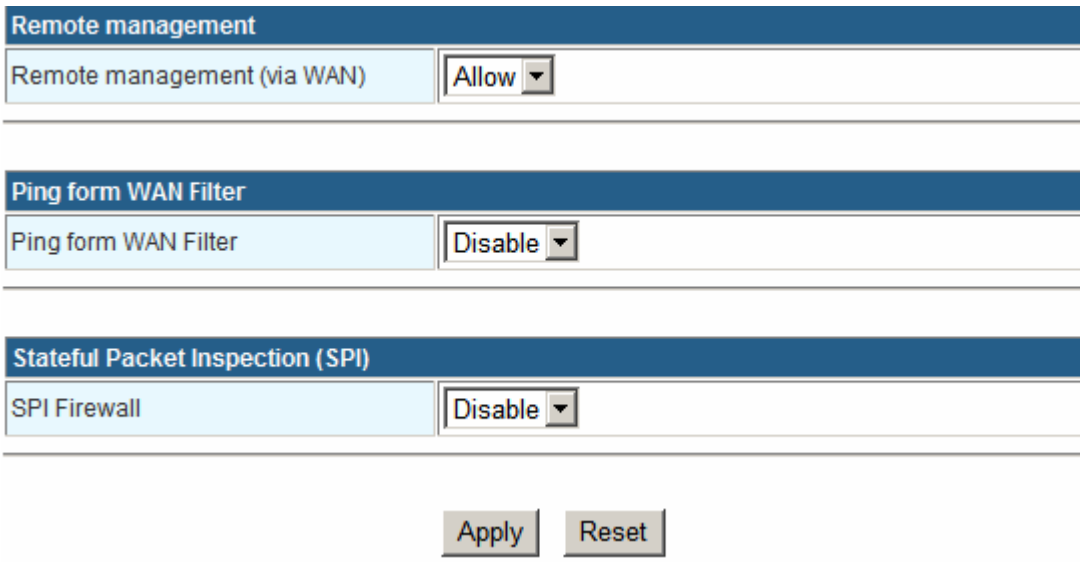


In computer networking, DMZ is a firewall configuration for securing local area networks (LANs).

- DMZ Settings: open and close Settings.
- DMZ host IP Address: Please Enter the IP address of the computer which you want to set as DMZ host

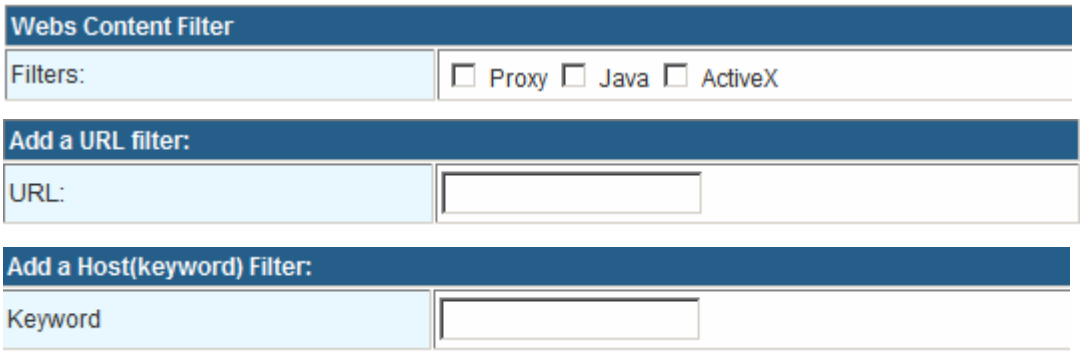
Note: When DMZ host is settled, the computer is completely exposed to the external network; the firewall will not influence this host.

3.3.13.4 System Security



Include Remote management, Ping from WAN Filter and SPI(Stateful Packet Inspection).

3.3.13.5 Content Filter Settings



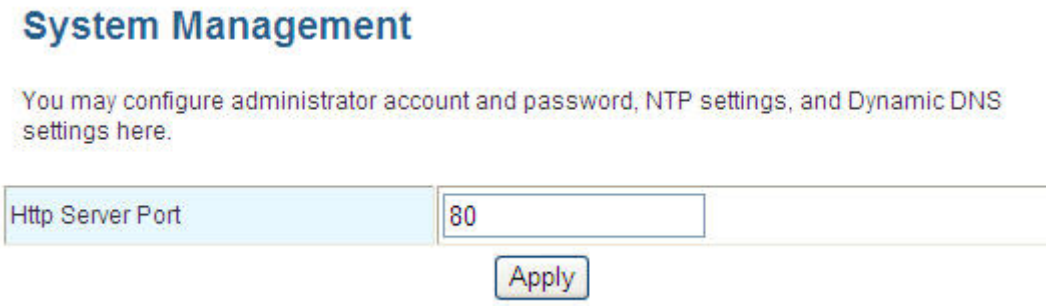
You can setup Content Fillter to restrict the improper content access, including

Webs Content Settings, URL filter and Host Filter.

3.3.14 Administration

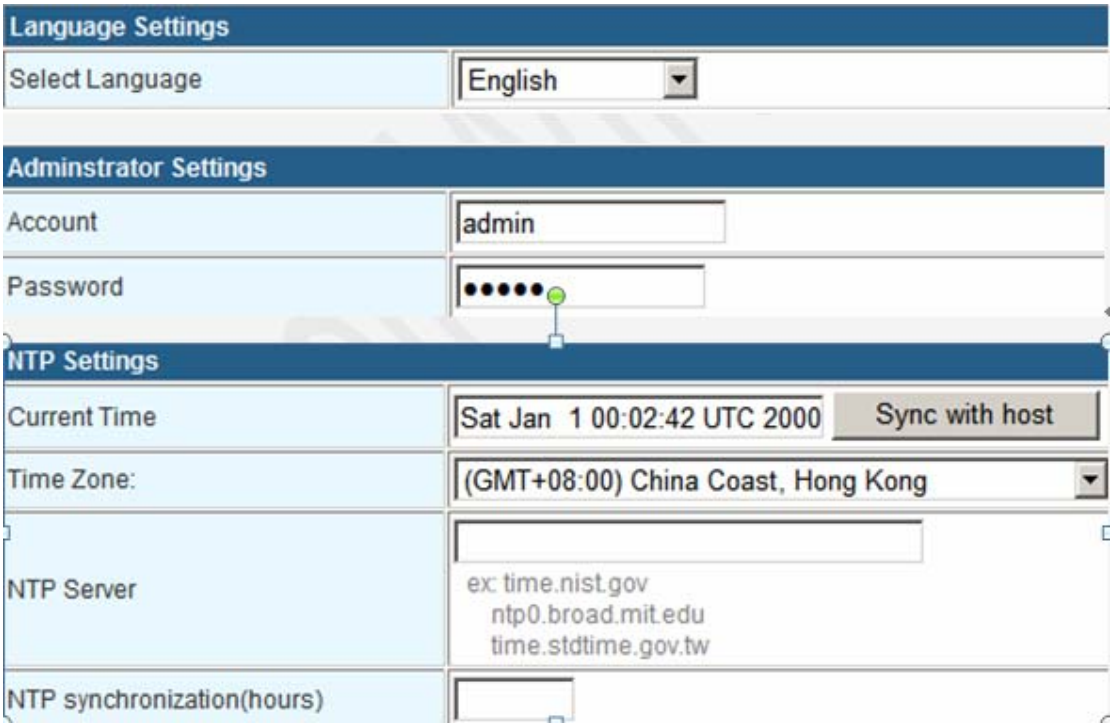
3.3.14.1 Management

3.3.14.1.1 Router web port


System Management
You may configure administrator account and password, NTP settings, and Dynamic DNS settings here.
Http Server Port
80
Apply

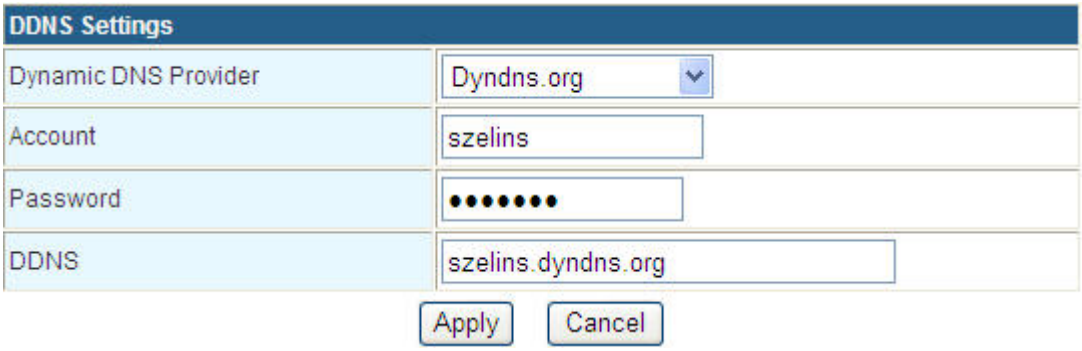
Please input the web port of the router. Normally we use 80 or 10000.
Please re-power the router after changing the port number.

3.3.14.1.2 Language, password and NTP settings.



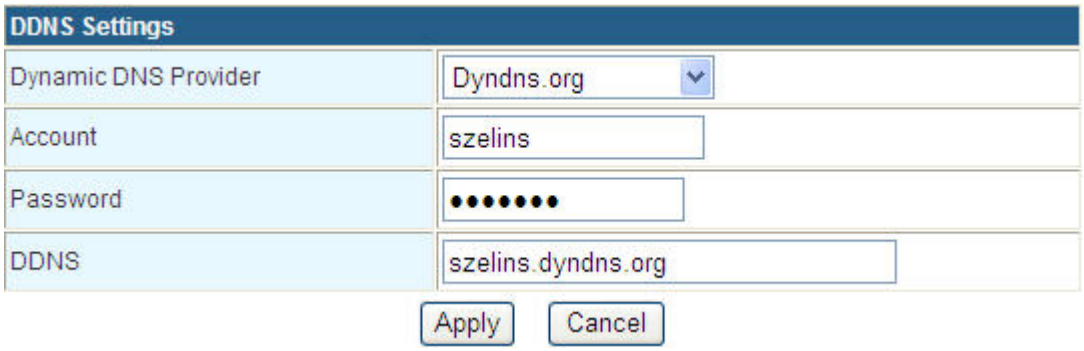
- Select Language
- Adminstrator Settings. The default both are admin.
- NTP Settings

3.3.14.1.3 DDNS settings.



DDNS: support
Dyndns.org
freedns.afraid.org
www.zoneedit.com
www.no-ip.com

For example,



Dynamic DNS Provider: select the DNS server
Account, Password: input info
DDNS: fill in DDNS
Click “Apply” to activate the DDNS.

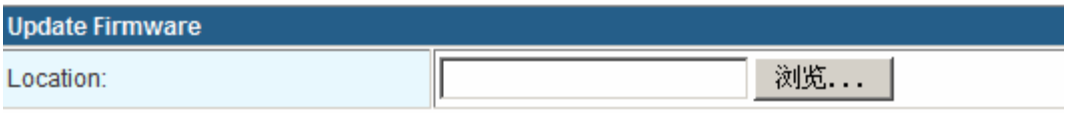
3.3.14.2 Reboot Settings

This function will detect the status of 3G by ping and complete the corresponding actions according to the ping result。

- Check the box, start the net detection restart function.
- Detection method (PING): fill the server domain name or IP, and then click the detection button, and detect if the fill-in is right.
- Detection interval time (second): the interval time between the first detection and the second detection is 60-86400 seconds.
- Detection counter: if you can't get the right result by ping when the detection frequency is the same as the fill-in times, the device will restart.
- Restart the counter before the detection function get into dormant state & detection function dormant time: this will protect the device against the damage caused by the continuous restarts, which are caused by the ping failure by the result of the fault in filling the server domain name. After several times of restarts, the device will get into the dormant state. After that the detection will continue, and now the counter in flash will become zero and recount.

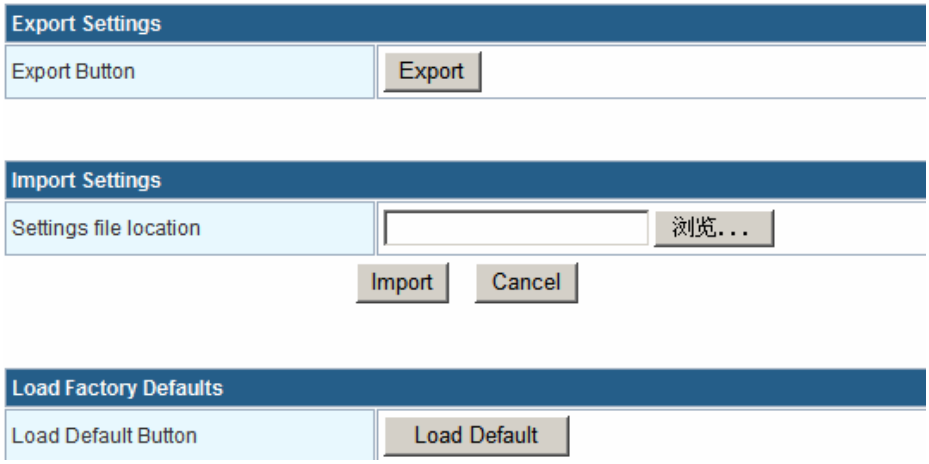
Note: This function will be only valid only in 3G permanent on-line and dialing according to the setting time, other states not. In setting, firstly you must detect if the filled-in server domain name or IP is valid.

3.3.14.3 Upgrade Firmware



Upgrade the firmware to obtain new functionality. It takes about 2 minutes.

3.3.14.4 Parameter Management

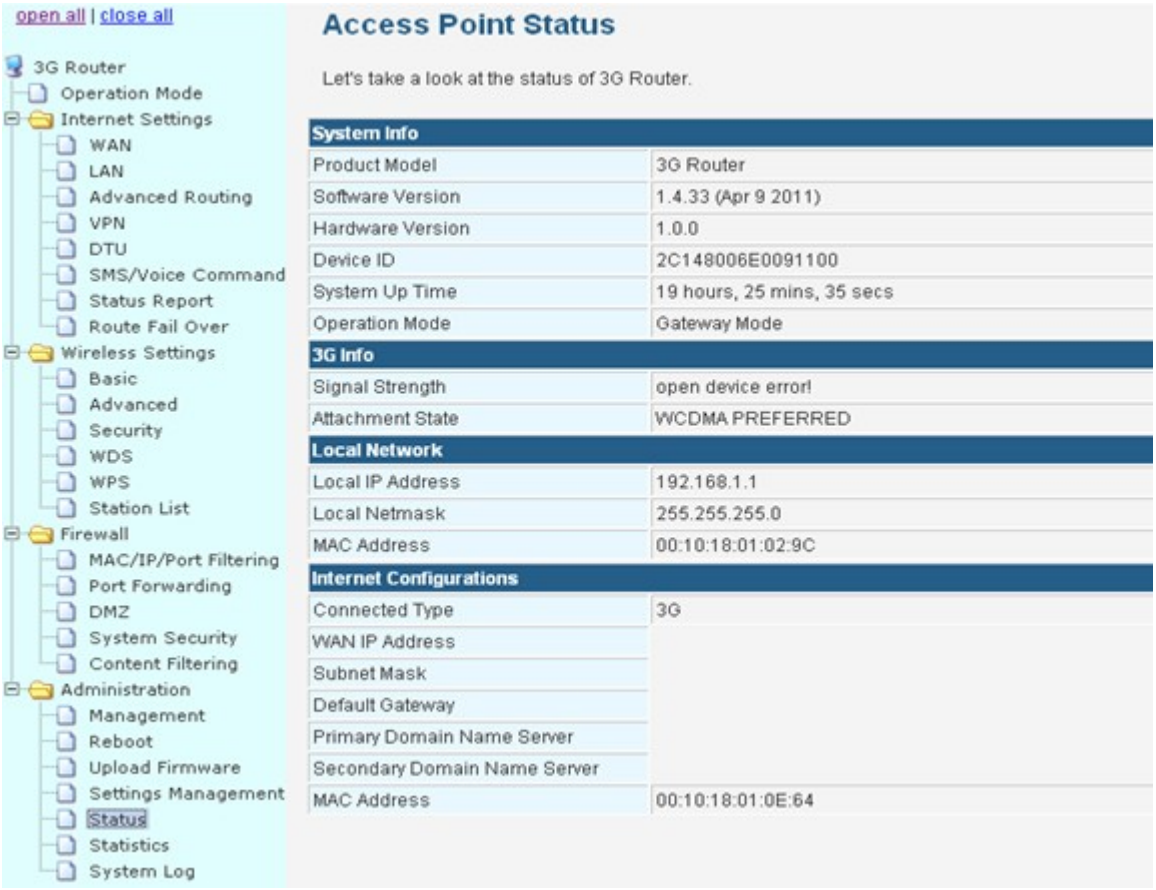


Here you can make a backup of current settings or restore previous settings of

the router .

- **Export settings:** click 'export' to export configuration files and then select save path.
- **Import settings:** click 'browse', select previous backup configuration files and then click 'Import'. Then all the previous settings will be recovered.
- **Load Factory Defaults:** click 'Load Default' then all settings will be restored to factory settings. This is not recommended in order to avoid the loss of important parameter

3.3.14.5 System state information



From this page you can see the Router's basic running state.

- Product Model
- **Software Version**: software version reveals the status of software update.
- **Hardware Version**: 1.0.0
- **Device ID**: every device has a unique ID, which has two functions: 1, it is manageable; 2, it allows to use point to point in VPN.
- **System Uptime:** this time directly reveals router working hours.
- **Signal Strength:** reveals the current network state of 2G/3G. 0 and 99 mean

no signal.

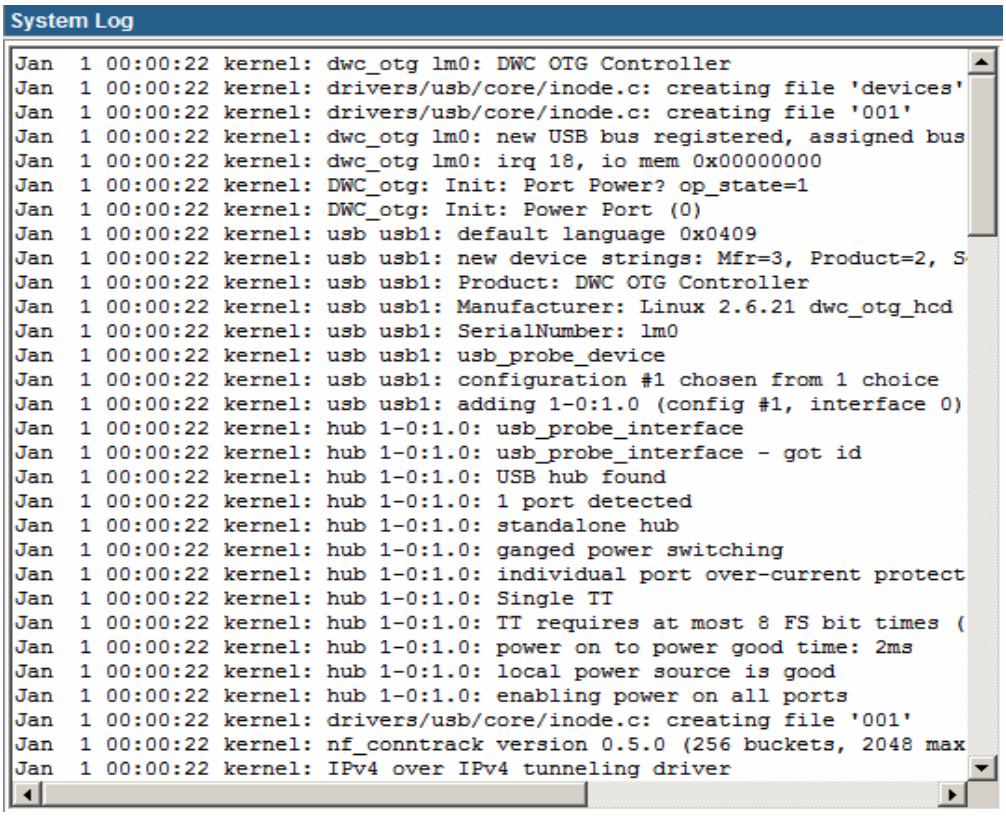
- **Attachment state:** displays the current network attachment state, which can be set by users.
- **WPN IP address:** the IP expose when the router gets on internet.

3.3.14.6 Flow Statistics

WAN/LAN	
WAN Rx packets:	0
WAN Rx bytes:	0
WAN Tx packets:	18
WAN Tx bytes:	1476
LAN Rx packets:	1063
LAN Rx bytes:	100996
LAN Tx packets:	572
LAN Tx bytes:	440808

Display the statistics information of system flow.

3.3.14.7 System log


System Log
Jan 1 00:00:22 kernel: dwc_otg lm0: DWC OTG Controller
Jan 1 00:00:22 kernel: drivers/usb/core/inode.c: creating file 'devices'
Jan 1 00:00:22 kernel: drivers/usb/core/inode.c: creating file '001'
Jan 1 00:00:22 kernel: dwc_otg lm0: new USB bus registered, assigned bus
Jan 1 00:00:22 kernel: dwc_otg lm0: irq 18, io mem 0x00000000
Jan 1 00:00:22 kernel: DWC_otg: Init: Port Power? op_state=1
Jan 1 00:00:22 kernel: DWC_otg: Init: Power Port (0)
Jan 1 00:00:22 kernel: usb usb1: default language 0x0409
Jan 1 00:00:22 kernel: usb usb1: new device strings: Mfr=3, Product=2, S
Jan 1 00:00:22 kernel: usb usb1: Product: DWC OTG Controller
Jan 1 00:00:22 kernel: usb usb1: Manufacturer: Linux 2.6.21 dwc_otg_hcd
Jan 1 00:00:22 kernel: usb usb1: SerialNumber: lm0
Jan 1 00:00:22 kernel: usb usb1: usb_probe_device
Jan 1 00:00:22 kernel: usb usb1: configuration #1 chosen from 1 choice
Jan 1 00:00:22 kernel: usb usb1: adding 1-0:1.0 (config #1, interface 0)
Jan 1 00:00:22 kernel: hub 1-0:1.0: usb_probe_interface
Jan 1 00:00:22 kernel: hub 1-0:1.0: usb_probe_interface - got id
Jan 1 00:00:22 kernel: hub 1-0:1.0: USB hub found
Jan 1 00:00:22 kernel: hub 1-0:1.0: 1 port detected
Jan 1 00:00:22 kernel: hub 1-0:1.0: standalone hub
Jan 1 00:00:22 kernel: hub 1-0:1.0: ganged power switching
Jan 1 00:00:22 kernel: hub 1-0:1.0: individual port over-current protect
Jan 1 00:00:22 kernel: hub 1-0:1.0: Single TT
Jan 1 00:00:22 kernel: hub 1-0:1.0: TT requires at most 8 FS bit times (
Jan 1 00:00:22 kernel: hub 1-0:1.0: power on to power good time: 2ms
Jan 1 00:00:22 kernel: hub 1-0:1.0: local power source is good
Jan 1 00:00:22 kernel: hub 1-0:1.0: enabling power on all ports
Jan 1 00:00:22 kernel: drivers/usb/core/inode.c: creating file '001'
Jan 1 00:00:22 kernel: nf_conntrack version 0.5.0 (256 buckets, 2048 max
Jan 1 00:00:22 kernel: IPv4 over IPv4 tunneling driver

From the system log you can read the various situations after the system starts.

Chapter 4 FAQ

1. Open Device Error

3G Info	
Signal Strength	open device error!

With this error, most of time the module inside the router is loosen. Please try to fasten it.

2. Read Error

3G Info	
Signal Strength	read error!
Attachment State	Automatic search

With this error, it indicates the sim card is not well touched with sim card slot. Try to check the sim card is right put. Try to scrap the sim card slot and make it clean.

3. Signal Strength has right number, but cannot dialup.

3G Info	
Signal Strength	16 , (0-31)
Attachment State	Automatic search

Try to check the WAN port setting is correct.

4. Signal Strength shows 99.

3G Info	
Signal Strength	16 , (0-31)
Attachment State	Automatic search

Here it shows 16, it means signal is okay. If shows 99, try to check the sim card is has enough balance. Or if the data business is supported.

5. The router cannot be remote web visited.

Default the router's web port is 80. Some network ISP block the 80 of incoming. So confirm with your ISP which port can be visited. Or you can change other port to try, such as port 10000. Following chapter *3.3.14.1.1 Router web port* to operate.

6. Signal shows 99 but still can connect to internet and get WAN IP.

Our router built-in different types of modem inside, some modem cost this. But will not affect the use.

7. Router shows sim card and network info, but cannot connect to internet.

Check the sim card is with balance or limited service by the ISP.